1: Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

often breaking off, seldom cease for the season without affording moisture enough for the bringing on of the summer cr[illegible].

The rains ending with September, the country is left dry for a time; its uneven form prevents the soil from retaining much moisture; by the drying of the country, and the decline of the sun's power, the cold weather is introduced. This is a delightful season—a pleasant bright sun and a cool bracing air make it one refreshing and invigorating after the dry heat of the first part of summer, and the warm moisture of the latter months. This bright cold weather is, however, varied by rainy days, which bring rather a raw cold; showers may be expected about the 20th of December, or between that date and Christmas time; and on the higher ridges, at 3000 and 4000 feet, snow falls, melting almost as soon as it falls. It is this winter rain that enables the peasant to proceed with the sowings for the spring crop, and on the occasional recurrence of such showers during the next three months he depends for that harvest which the increasing warmth of the months of March and April is sure to bring on well if the rain has been fairly plentiful.

The only part of the year at all unhealthy is the latter half of the rains; the natives date the beginning of it from the flowering of the rice; it may be said to extend through part of August, September, and part of October; during that time intermittent fever much prevails. The type of fever is somewhat worse than what abounds at the same season in the Panjāb; it is more of a jungle-fever, less regular in its times, and less easy to get rid of. In some years fever is exceedingly prevalent over the whole of this tract. I have heard that Ranjīt Singh's father once took advantage of the inhabitants of the lower ranges being striken down with it to make a raid on Jummoo.

The vegetation of the Outer Hills is for the most part of the dry-tropical character.

The very outermost ridge, as before said, is covered with a more or less dense forest of small-leafed acacias (*A. Arabica* and *A. modesta*, called by the people *Kikar* and *Phulāi* respectively), with some of the *Ber* tree (Zizyphus jujuba) intermingled, and an

1: Drew G-3 (1862-1872) 1875 AVI Kashmir AVI

137 undergrowth of the shrub *Brenkar*. This forest, which on the hills occupies a dry pebbly soil, sometimes spreads down on to the loamy ground of the plains; probably in former times it grew over a larger area of the plain, and has since been gradually cleared; the greatest space of flat ground now occupied by it is close below Jummoo, the forest having there been preserved by command.

Farther within the hills there is not such a growth as to make a forest; it is rather a straggling bushy scrub, partly of the same trees in a shrubby form, with Euphorbia (*E. Royleana*, or *pentagona*), which grows to a large size, and occasionally mango, pípal, banyán, bamboo, and palm (*Phœnix sylvestris*). The streams that flow in the narrow ravines among the sandstone hills have their edges adorned with oleander bushes.

The long-leafed pine (*Pinus longifolia*, whose native names are *chil* and *chir**), a tree whose needle-foliage is of a light bright green colour, is usually first found, as one goes inwards, on the north slope of the outermost ridge. I have found it there at the level of 1400 feet, but only in a stunted form. On the broken plateaus and dry hill-sides of 2000 feet elevation one sees fair-sized trees of it scattered about; at 3000 and 4000 feet, in favourable spots, one finds whole woods of it, but even these are not so thick and close as the forests of *Pinus excelsa*, which cover the higher hills. The highest range of *Pinus longifolia* seems to be 5500 feet, or it may be a little more.

241 Of cultivated plants we have in these lower hills nearly the same kinds as in the Panjáb, and over the whole area the same succession of two crops in the year. The winter crop, chiefly wheat and barley, is sown in December (sometimes earlier, and sometimes even later), and ripens in April; the summer crop of maize, millet, and rice, is sown in June and ripens in September or October. At one or two places (as at Syálsúi, near Rájáori) rice is raised by rain-moisture alone, but most generally it depends on irrigation. Plantain and sugar-cane, though not largely cultivated, grow fairly well, they have even been introduced into Púnch, which is 3300 feet above the sea.

* With the cerebral *r*.

1a Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

close; this is a very good form for hill countries.* Their cap is of different shapes, sometimes a skull-cap, more often one with side flaps. Lastly, a lúi (loose) or blanket, of the same cloth, worn in many ways according to the occasion, enables them to withstand all the severe weather they are exposed to. 291

The women have a long gown of the same homespun, and, like the men, wear a kamarband. In some parts the gown is of nearly black cloth instead of grey. Sometimes they wear a low round red cap; near Bámban the women have a peculiar tall one.

The caste that among the Paháris prevails in numbers far over others is the Thakar, which was mentioned as occurring among the Dográs. The Thakars, indeed, have nearly all the land in proprietorship; they cultivate for the most part their own land; they are the peasantry of the mountains, as the Jats are of the Panjáb plain. 564 241

The low castes, Dúm and Megh, are scattered about everywhere; they dress in the same way as the others, and have acquired something of the same general appearance, but are not such large men, nor have they as good countenances.

GADDÍS.

At the south-east end of this region, where it borders on the Chamba country, there is a race called Gaddís (or Guddees), who seem to have come at some time or other from the Chamba Hills. They are Hindús, and have the same subdivisions of caste as the others, but they do not keep their caste rules so strictly. They possess large flocks of sheep and herds of goats, and they migrate with them to different altitudes according to the season. When snow threatens on the higher pastures they descend, coming in winter to the Outer Hills, and even to the edge of the plains. In spring they turn their faces homeward, and step by step follow the returning verdure, by June reaching the highest pastures and the hamlets, where some of the family had kept warm their home. 101 131 564 221 233

In the upper valley of the Tavi, which was lately described, live 000

* See the cut on the next page of some men of an allied race (the Gaddís mentioned below), whose dress is the same as that of these Paháris, except as to the cap.

1; Drew G-3 (1862-1872) 1875 AVI Kashmir AVI

heights looks back across the valley, the mountains on the north show out their whole form and grandeur. Behind Rámban is a very distinct ridge, continuing for 15 miles at an average height of 9000 or 10,000 feet. From this ridge a succession of spurs come down to the river, separated by valleys which are little more than a mile distant from one another; at their mouths small tracts of land are terraced and often irrigated. The spur-sides are steep, but seldom rocky, the greater part of their surface is covered with herbage; some also is forest, but, from the general south aspect, not a great proportion; it is only where side-slopes give a more shady outlook that thick forest can be found, but over a good part of the rest trees and bushes are scattered.

Besides the cultivation low down near the river, patches of land have been brought under tillage all the way up to 7000 feet, after partial levelling and terracing. This is more common than anywhere else on the flatter tops of the spurs just above their last fall to the river, say at an elevation of 5000 feet. Such hill-side cultivation depends entirely on rain for its moisture, for water cannot be brought to such spots for irrigation.

Farther back, are higher, rocky, mountains that reach some 2000 feet above the forest limit; these make part of the range that bounds Kashmir; over a long depression in this the Banihál road leads to that country. Farther west there are the ridges of Dainkmang, Patal, and Sartali, all which have bold rocky summits.

The branch valley, in which flows the Banihál stream, reaches up among these mountains. Along the bottom of it are evergreens and deciduous trees, making a beautiful and varied foliage. The steep hill-sides above have long-leafed pines scattered over them; among these the road leads us, cut into the bank in winding contours, high above the stream. Farther up the valley the road comes to the very side of the stream, which flows among fallen rocks, often rushing over them in rapids. As we go up we gradually leave behind the trees of the lower region, and get among those that frequent higher levels.

Following up the main river, the next place where I have

1: Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

564 an entire village of these near the fort. There are a few Mu-
101 hammadans who probably are converted Thakars. The Thakars have just those characteristics by which we described the Pahāris generally.

563 Besides the Hindūs and Muhammadans, there are two or three
166 hamlets towards the head of Bhutnā, eleven houses in all, inhabited by Bhots or Buddhists from Zānskār, on the farther side of the great range. I here only mention their occurrence; the characters of that Tibetan race they belong to will be given farther on, under the heading of Ladākh.

771 The people of Pādar seem a good deal given to serpent worship; they do not, however, separate it from their observance of the rites of the Hindū religion; the serpent is reckoned among the many devtas or gods recognised by that faith; one sees temples raised to different *nāg-devtas*, or serpent-gods, which are adorned with wood-carvings of snakes in many forms.*

175 The earliest state of Pādar that I can hear of is in a period
564 that ended more than two hundred years ago; then the chief
643 men, or the rulers, or the ruling caste, were Rānās. Rānā is an old Hindū word for a ruler who (in these parts, at all events) is less in power than a Raja. The Rānās of Pādar were Rājpūts; every village or every two or three villages had its Rānā, an independent ruler, who used to make war against his neighbour the next-door Rānā. The district of Pāngi was, I believe, in the same
• [241] state. There are descendants of these Rānās in Pādar to this
[582] day; they have taken to cultivation and till the bit of land that has been preserved to them; but they still keep their caste distinct; they will marry the daughters of Thakars, but will not give theirs to them in marriage.†

175 That state of things, so pleasant for the Rānās, was broken in upon by Raja Chatar Singh, of Chamba, who was eight generations back from Raja Srī Singh, who was ruler in 1869; the time

* One of these temples is where there comes out a hot spring of considerable volume which has a temperature of 131°; bubbles of sulphuretted hydrogen escape from it. Here a bathing-place has been built, and a dharmsāla or resting-place for faqīrs.

† Rānās are met with also in Bhadarwāh.

T. Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

I must not leave unnoticed the *roches moutonnées*, produced by old glaciers, in the main valley a little higher up than Hamūrī, with grooves on the gneiss rock running in the direction of the valley; this is about 300 feet above the river and 9200 feet above the sea.

The highest village of any size in the Bhutnā valley is Machel, two marches, or 22 miles, from Atholī. At Machel Bhots predominate, though there are a few families of Hindūs. The Bhots seem to have been for long settled in this upper end of the valley. Machel is 9700 feet above the sea; the highest inhabited place of all is Sunjām, half a march beyond Machel; here is but one household of Bhots, a hardy family; they are confined within doors by the snow for seven months in the year. We were there on the 7th June and the snow had melted from the fields about a month before.

We had noticed, as we ascended the valley, that the vegetation gradually diminished; at Machel the mountain side had become much barer; there were some stunted deodars, but at a height of 9800 feet the growth of that tree altogether ended; spruce and silver fir continued farther; birch, which had at first appeared at 8000 feet, grew higher than all the others. The last limits of forest trees that I observed, still along the valley, were 12,000 feet for silver fir and 12,500 feet for birch; but this was counting the last straggling trees.

At Sunjām, 11,000 feet, they sow wheat, peas, buckwheat, and the kind of barley called *grim*, the grain of which becomes loosened from its husk like the grain of wheat, which I shall hereafter call "naked barley." Often the wheat does not ripen, but they sow some every year for the chance. Sometimes the whole harvest fails, and then they have to go to the Kishtwār country for grain, taking down sheep to exchange.

Beyond Sunjām is nothing but a waste of streams and bare mountains, of glaciers and of snow.

MIDDLE MOUNTAINS OF THE WEST.

West of the meridian of Jummoo, as has indeed been more than once said, these mountains have not such a wide area, nor

1; Drew G-S (1862-1872) 1875 AV1 Kashmir AV1

When one continues up the valley the climate becomes more rainy, and at certain times of the year—as July and August—showers fall almost daily. The crops grown are in part *bārāni*—that is, depending on rain—and in part irrigated; the irrigation cuts are drawn chiefly from the side streams; rice, which is the crop most generally grown by such aid, extends as far as the village of Gūnd, about 7000 feet above the sea; higher up the chief cereals are *china* (one of the millets) and *tromba*, or buckwheat, which last is a most hardy plant, that ripens its grain with comparatively little sun. Towards the head of this valley it is not excess of cold at any time, but absence of sun, from the prevalence of rain-clouds as harvest-time comes near, that limits the growth of the various kinds of crop.

At Gagangīr, which is two days' march above Kangan and four from Sirīnagar, the valley has much narrowed. The river flows at the very foot of the wooded mountain-slope of the left bank, and on the right there is but a narrow strip between the stream and the opposing hills. The cultivation of this strip supports a small village; the walnut-trees that surround it are the last we see in this valley; the level of Gagangīr, which is about 7400 feet, may be counted the limit of them here. Here, too, ends the characteristic scenery of the last few marches; beyond we shall come to scenes of a different kind; but before proceeding to them let us turn to take a look back and cast the eye down the valley. One is struck with what I have often noticed in other mountain valleys after travelling some way towards their sources and then turning back. The mountains seem diminished, seem as if they hardly could be the same that towered above us as we passed along the foot of them; it seems, so, as if the opening of the valley into the plain below must be near at hand; it is difficult to think that there are so many miles to be traversed in a valley deep between high mountains.

Beyond Gagangīr a great rocky ridge on the north side approaches its opposite neighbour on the south, and the valley of the river becomes a gorge through which the waters foam, while the path is carried among the large fallen blocks that fill up the

1; Drew G-3 (1862-1872) 1875 AV1 Kashmir AV1

The determining cause of the accumulation of so much moraine matter at the particular spot, Thājwaz, no doubt was the narrow gorge below, which made the ice of the side glacier (in an intermediate later time, when the main-valley glacier had retreated as far back as Sonāmarg or farther, and so the two had separated) to accumulate, to abut perhaps against the opposite mountain, and, keeping long at that level, to shed the material it carried, some being borne away down the gorge, while that thrown off on the upper side has remained to this day.*

The village of Sonāmarg, a couple of miles above Thājwaz, has but half a dozen houses; it is with difficulty kept inhabited, for the cloudiness and showery character of its climate combined with the altitude, 8600 feet, make the growth of all crops precarious. The Maharaja's Government gives some advantages to those who will settle here, for the sake of their aid in carrying the post to Ladākh across the Pass; for this is the last inhabited spot in the Sind Valley; no other house is met with until we are beyond the Pass, in the Drās country.

At Sonāmarg we no longer have the homely look of the Kashmir village; here no trees shelter the cottages, the plain is bare, and the fields look unpromising. But the mountains that face the village on the north attract our attention; here beds of greyish-blue limestone stand up perfectly vertical and make precipitous slab-like faces of rock across the higher parts of the spurs.

From Sonāmarg to Bāltal the valley is immediately bounded by hills a few thousand feet high; on the north side they are covered only with grass; on the south they are varied with tracts of forest. In some places the fir wood spreads down to the part traversed by the road; when we get to Bāltal the plain again is bare, but some of the lower hill-slopes are covered with birch wood and firs.

Bāltal is the last halting-place before the Pass. Here the main stream of the Sind River turns off almost at right angles

* On the steep side of the mountain to the right bank of the main river (above the bridge) I observed glacier-scratches at a height of about 800 feet above

2: Gervis T-3 (no date) 1954 AV1 Kashmir AV1

each with its own ruler. The depths of the valleys are alive with ice-cold babbling brooks which run over smooth, brown sandstone rocks, although here and there in the passage of the waters, there appears a jagged white limestone piece which has withstood all attempts to smooth its surface. From among them all, often from a rock island, trees spread their branches over deep pools which are frequently the resting place for many fish, the most popular being the mahseer, before they brave the rapids to swim up stream.

Foot tracks lead up from the water to lone farmhouses; here and there is to be found a wider track which cattle have made or where the loaded mule is led, for there are few roads fit for wheeled carts. Flowers grow there in profusion during the spring; small fields of corn, green in springtime, yellow in autumn, are to be discovered at odd spots, these remaining where they have been for hundreds of years. There is none of the bleakness of Ladakh, Baltistan or Gilgit, although the same steep tracks over rocks, sharp ascents and descents are there, but they are fringed by bushes, trees shade them, and just when one is feeling the need of a cooling draught, a small clear spring bursts from a rocky grassy bank. Poonch reminds the man from Britain much more of his homeland than does the Valley. The Jhelum flows through the State, as does the Poonch river; a road follows this from Kotli to the city of Poonch. It seems that in so many places camping sites are to be found, small *margs* with close-cropped grass, a stream close by and a friendly if inquisitive people soon round the camp.

It is at first surprising to find the large percentage of the men among them who speak English, then as they proudly talk of their service in the Indian Army, of their father's service and their grandfathers', many of whom are still alive and draw pensions, one remembers that this little State claims to have provided a larger percentage of army volunteers than any other in India during the Great War of 1914-18. Thousands of them have always found service in the Indian Army, returning home on pension to take over the small-holding which their father has tended against that time, he then being able to retire to gossip, rejuvenated by the stories his son has told of his own

2: Gervis T-3 (no date) 1954 AV1 Kashmir AV1

—the Raja's guest house. To sit on the lawns before this and watch the glorious changing of colours in the surrounding hills brought about by the setting sun, is a fitting finish to a good day's sport or a long trek, as in the air fresh and clear you listen to stories told of the day's play with rod and gun, for there is good fishing in the river and plenty of game on the slopes above.

Poonch is renowned for its bear hunts, its Rajas have always been the keenest of sportsmen, and seldom has a season passed in which there have not been at least two bear drives in each of which "honks", as they are called, forty or fifty bears have been shot, for they abound in the dense forest slopes round about. The shikaris of Kashmir insist that great numbers of black bears migrate in the autumn to Poonch where there is little if any snowfall during the winter.

Whereas the red bears of Gilgit spend the winter's hibernation in a cave, the black bears of Kashmir, where the mountain slopes are covered with firs, pines and other great trees, find a hollow tree trunk for those months of rest.

Unlike the red bear, which shikaris declare to be a more or less harmless creature only killing what he needs for his own food, the clumsy, rapacious black bear does an enormous amount of damage, killing off hundreds of young pine trees by ripping away the bark to get at the gum which exudes and of which he is as passionately fond as of honey, or by eating or trampling down fields of Indian corn—another favourite of his—destroying in a night sufficient to provide a poor peasant family for the whole season.

When the corn is ripening the farmers do their best to protect the crop from bears which invade it at that time; it is on the Indian corn that they fatten for the winter. Fires are lighted, the smoke drifting across the field; bears dislike this since they cannot get the sniff of a hunter through the smoke. In the middle of the field a small platform called a *machan* is built and on this sits a guard, his job being to scare the bears away when they come—they always feed at night. He blows horns, throws stones, or by pulling a long string rattles a can with stones in it, the can being tied to a tree or pole which may be a hundred yards away from him. But he is usually too

St Gervis T-3 (no date) 1954 AVI Kashmir AVI

scared to come down from his perch to frighten the bear away; what is more, the bear knows this, and so feeds away happily in the long corn until the dawn, when it makes for the forests, there to hide up and sleep during the daylight hours.

His liking for meat is said to be acquired, hunters of a century ago speaking of meat-eating black bears as one now would of a man-eating tiger, but in these days the black bear is a bullock killer. It has been said that this desire for meat was first brought about when a cattle disease killed off many of the buffaloes; bears came across the bodies of the dead animals, tasted them, and took a liking for beef. In any case, since the bear is a killer of the cow—an animal sacred to the Hindu—a Raja would feel perfectly justified in despatching the bear.

It was whilst stopping in the guest house that I learnt a lot about bears, most of it from the head shikari to the Raja, the man who collected together hundreds of beaters for each of the hunts. It was from him that I learnt that bears breed once a year, the litter usually being two cubs, which remain with their mother for a year, going into hibernation with her for the winter during December, and remaining in the hollow tree stump until March, when, although they have no wish to go, the mother bear awakens and pushes them out into the snow to fend for themselves. She then returns to her bed, and within a few days the new litter is born. As is only to be expected after a mother bear has slept for over three months, her offsprings are pathetic little creatures with bodies which are almost hairless; it seems impossible that they can survive, let alone grow into great black bears which can bring down a full grown bullock.

For yet another month she remains in the tree stump, and when she finally stumbles out she is thin and weak; her limbs are stiff, so that the first day she only moves around for exercise, perhaps to chew on an old bone as the life comes back into her gums.

Very slowly she wears her cubs to the sunlight, she is herself not too strong, very different from the great fat mother bear which went into hibernation four months earlier, and she is now feeding her babies. Their first solid food is a few nibbles

2: Gervis T-3 (no date) 1964 AV1 Kashmir AV1

133
241

In the foreground rice fields each divided by a stone wall (p. 314)

[facing p. 317]

2: Gervis T-3 (no date) 1954 AV1 Kashmir AV1

day, far over to the right, the peak of Kolahoi is visible. Here the Valley of Kashmir opens before the road, but since it is on the same level does not appear to be as grand as when one bursts upon it from a high pass.

From the spread town of Baramula, the poplar-lined road goes through the flat fields to Srinagar. Some who go there still prefer to have their houseboat or donga meet them here so that they can continue the journey to the city by water. After that all is so quiet, the road with but few turns or twists; there is little to disturb the stillness except the occasional shout of a shepherd boy; no raging torrent runs below; there are no terrifying corners with honking lorries and hooting cars; no man or beast seems to be in a hurry, for it is the Vale of Kashmir, where nature has its sway. It is as though the unspoken greeting is "here rest a while".

Going out of Kashmir by the other route, a two hundred mile run to Jammu by the Banihal cart road, we left Srinagar at the other side of the city and passing the famous Pampur saffron fields, stopped in the village to buy some of its famed brand of biscuits, then went on past the ruins of the great light grey limestone temple built by King Avanti Varma in the eighth century; this is near to the roadside, surrounded by close-cropped turf, glorious in its broken and aged grandeur, especially in the spring when masses of mauve, wild iris spread around it. We continued on along the raised road through hundreds of acres of rice fields, with hamlets crushing on to the roadway, always seeming to have chosen a blind corner for their site. Tongas and bullock carts held tight to the single width tarred portion of the road and reluctantly gave way to us at the very last minute, to move over on to the dirt-built-up sides. Eventually, after thirty-two miles, we reached Khanabal, which adjoins Islamabad—by some called Anatnag. From here the poplar-lined road turns direct towards the distant mountains; still past fields of corn and rice, past small farms tucked away between willows, past clumps of the always four chinars on the wayside, past Muslim graveyards gay with mauve and white iris, shops which stand close on the edge of the road as if to demand that we stop to buy their wares from the sparsely spread shelves

2: Gervis T-3 (no date) 1954 AVI Kashmir AVI

491 or sloping floor, past dozens of carriers' lorries which met us from the opposite direction, but having been made to pay for not previously doing so, always pulling off the centre of the road well in time and so permitting each of us to hold the road with two of our four wheels.

491 Slowly we had been climbing until we passed Lower Munda,
241 then Upper Munda, with its beautifully situated rest house with a
233 wonderful view on the hillside. The country still open, was such that the road had to wind here and there as it followed the slopes; the crops had finished; the land remaining was now only fit for grazing the hundreds of goats and sheep which were under the care of small boys; a pretty little girl drove three small cows down to the village; we met less traffic as the road climbs the steeper side of the mountain, though even here there are woodlands high on one side and a gentle slope to the valley on the other, with the road ahead nearly always in view.

The road zig-zags higher and higher, the trees are now finished, then the bushes also have gone, just the scrub remains, and soon even that has disappeared. There is a hairpin bend, but the road is wide there since it is on a corner, round a great spur of the mountain, and the view is so grand that we took the car close to the great loose stone wall and gazed on the country below—the Vale of Kashmir—which in spring appears as though it is in flood, the reflection being from the rice fields under water from the irrigation channels. From there, looking down almost from the top of the pass, the Valley is very beautiful; the roads are easy to pick out with poplars lining them, the clumps of trees with the dark brown roofs of the houses, and here strangely enough the air was so still and quiet that we could hear a cow mooing far, far below. The only creatures we found high up there were flocks of goats which leapt the wall, over to the steep banks on the other side when we passed. In the distance are the red and purple, snow-topped mountains. We passed over a nullah built of concrete and made there to carry off the water from the rains or melting snow, then went under a portion of the road which is roofed with heavy logs, its side open; so constructed that the boulders, which are always
491 falling down the mountain side, shall pass over and not block the road. At nine thousand feet is the Banihal Tunnel, where,

123
241
132
511

As one descends the mountains and nears the valley, gardens, cultivation commences immediately, and right up to the fringe of the forests maize is grown and walnut-trees abound. A little lower down, at an elevation of about 5,000 feet, rice of a hardy and stunted growth is found, and the shady plane-tree appears. Lower still superior rices are grown, and the watercourses are edged with willows. The side valleys which lead off from the vale of Kashmír, though possessing distinctive charms of their own, have certain features in common. At the mouth of the valley lies the wide delta of fertile soil on which the rice with its varying colours, the plane-trees, mulberries, and willows grow luxuriantly; a little higher up the land is terraced and rice still grows, and the slopes are ablaze with the wild indigo, till at about 6,000 feet the plane-tree gives place to the walnut, and rice to millets. On the left bank of the mountain river endless forests stretch from the bottom of the valley to the peaks; and on the right bank, wherever a nook or corner is sheltered from the sun and the hot breezes of India, the pines and firs establish themselves. Farther up the valley, the river, already a roaring torrent, becomes a veritable waterfall dashing down between lofty cliffs, whose lawns are fringed with maples and horse-chestnuts, white and pink, and millets are replaced by buckwheat and Tibetan barley. Soon after this the useful birch-tree appears, and then come grass and glaciers, the country of the shepherds.

Karewas.

133

Where the mountains cease to be steep, fan-like projections with flat arid tops and bare of trees run out towards the valley. These are known as *karewas*. Sometimes they stand up isolated in the middle of the valley, but, whether isolated or attached to the mountains, the *karewas* preserve the same sterile appearance and affect the same abrupt walls to the valley. The *karewas* are pierced by mountain torrents and seamed with ravines. Bearing in mind that Kashmír was once a lake, which dried up when nature afforded an outlet at Báramúla, it is easy to recognise in the *karewas* the shelving shores of a great inland sea, and to realise that the inhabitants of the old cities, the traces of which can be seen on high bluffs and on the slope of the mountains, had no other choice of sites, since in those days the present fertile valley was buried beneath a waste of water.

Lakes and springs.

241
133

Kashmír abounds in mountain tarns, lovely lakes, and swampy lagoons. Of the lakes the Wúlar, the Dal, and the Mánasbal are the most beautiful. It is also rich in springs, many of which are thermal. They are useful auxiliaries to the mountain streams in irrigation, and are sometimes the sole

sources of water, as in the case of Achabal, Verndg, and Kokarndg on the south, and Arpal on the east. Islamabad or Anantndg, 'the place of the countless springs,' sends out numerous streams. One of these springs, the Mallindg, is sulphurous, and its water is highly prized for garden cultivation. The Kashmiris are good judges of water. They regard Kokarndg as the best source of drinking-water, while Chashma Shahi above the Dal Lake stands high in order of merit.

It is time now for the traveller who has been resting in Srinagar to set out on the great northern road which leads to Gilgit. He will have admired the quaint, insanitary city lying along the banks of the Jhelum, with a length of 3 miles and an average breadth of 1½ miles on either side of the river. The houses vary in size from the large and spacious brick palaces of the Pandit aristocrat and his 500 retainers, warmed in the winter by Amritsar, to the dull house of three storeys, where the poor shawl-weaver lives his cramped life, and shivers in the frosty weather behind lattice windows covered with paper. In the spring and summer the earthen roofs of the houses, resting on layers of birch-bark, are bright with green herbage and flowers. The canals with their curious stone bridges and shady waterway, and the great river with an average width of eighty yards, spanned by wooden bridges, crowded with boats of every description, and lined by bathing ghats, are well worth studying. The wooden bridges are long, effective, and picturesque, and their construction is ingenious, for in design they appear to have anticipated the modern cantilever principle. Old boats filled with stones were sunk at the sites chosen for pier foundations. Piles were then driven and more boats were sunk. When a height above the low-water level was reached, wooden cribs of *double* logs were constructed by placing rough-hewn logs at right angles. As the structure approached the requisite elevation to admit of *shahtoosh* (horse-boats) passing beneath, *double* logs were cantilevered. This reduced the span, and huge trees were made to serve as girders to support the roadway. The foundations of loose stones and piles have been protected on the upstream side by planking, and a rough but effective cut-water made. The secret of the stability of these old bridges may, perhaps, be attributed to the skeleton piers offering little or no resistance to the large volume of water brought down at flood-time. It is true that the heavy floods of 1893 swept away six out of the seven city bridges, and that the cumbrous piers tend to narrow the waterway, but it should be remembered

Srinagar and the Jhelum.

487
133

valley, and the steep mountains rise on either side, the northern slopes covered with pine forest, the southern bare and treeless. At Gagangir the track climbs along the river torrent to Sonámarg (8,650 feet), the last and highest village in the Sind valley, if we except the small hamlet of Nilagrar some 2 miles higher up. Sonámarg is a beautiful mountain meadow surrounded by glaciers and forests. It is a miserable place in the winter time, but it is of great importance to encourage a resident population. The chief staples of cultivation are *grim*, or Tibetan barley, and buckwheat. It is good to turn loose the baggage ponies to graze on the meadow grasses; for in a few more marches one passes into a region like the country beyond the Burzil on the road to Gilgit, a land devoid of forests and pastures, 'a desert of bare crags and granite dust, a cloudless region always burning or freezing under the clear blue sky.' The Zoji La (11,300 feet) is the lowest depression in the great Western Himálayas which run from the Indus valley on the Chilás frontier. Over this high range the rains from the south hardly penetrate, and the cultivation, scanty and difficult, depends entirely on artificial canals. The ascent to the Zoji La from Kashmír is very steep, the descent to the elevated table-land of Tibet almost imperceptible. For five marches the route follows the course of the Drás river, through a desolate country of piled up rocks and loose gravel. At Chanagund the road to Skárdu crosses the Drás river by a cantilever bridge, 4 miles above the junction of the Drás and Suru rivers, and about 8 miles farther on the Indus receives their waters. But the steep cliffs of the Indus offer no path to the traveller, and the track leaves the Drás river, and turns in a southerly direction to Kargil, a delightful oasis. Then the road abandons the valleys and ascends the bare mountains. The dreary scenery is compensated by the cloudless pale blue sky and the dry bracing air so characteristic of Ladákh. Through gorges and defiles the valley of Shergol is reached, the first Buddhist village on the road. Thenceforward the country is Buddhist, and the road runs up and down over the Namika La (13,000 feet) and over the Fotu La (13,400 feet), the highest point on the Leh road. Along the road near the villages are Buddhist monasteries, *mani* (walls of praying stones) and *chortens*, where the ashes of the dead mixed with clay and moulded into a little idol are placed, and at Lamayuru there is a wilderness of monuments. Later, the Indus is crossed by a long cantilever bridge; and the road runs along the right

361
241

487
133

[23]

[778]

3z Imperial Gazetteer G-3 (1889-95) 1909 AV1 Kashmir AV1
Kashmiri AV4

Ki
533
517

Bhānds or Bhagats, already referred to. Sometimes we find in the villages a wandering minstrel (Shair), who sings to the accompaniment of a guitar, or recites verses, often extempore, full of local allusions and usually full of flattery, if an official or person of influence be present. Like most Orientals, the Kashmīris regard amusement as passive rather than active. They are glad to look on at a race or a game, but it is extremely difficult to induce them, athletic and powerful as they are, to take a part in any sport. They are not altogether to blame. In former days pastime was at a discount, and small mercy would have been shown to the serf who suggested that life should not be all labour. Even in the pampered city of Srīnagar the effervescence of youth was checked by Gulāb Singh, who sternly repressed the old ward fights with slings and stones. The professional *shikāris* are often keen sportsmen; and the boatmen of Kashmīr will, when challenged, paddle till they drop rather than be beaten by a rival crew.

Kr
133
132
Kr
[241]

Agriculture, Jammu.

As already explained, the Jammu province consists of a fringe of level land bordering on the Punjab Districts of Jhelum, Sialkot, and Gurdāspur, gradually rising by a succession of ranges of hills to the high uplands bounded by the mountains of the Himālayan range, across which lie Kashmīr, Baltistān, and Ladākh. The variations of climate are great, and the staples cultivated naturally vary to some extent with the climate. Thus the lower tracts yield all the usual crops of the Punjab, while in the higher tracts saffron, buckwheat, and mountain barley are grown. In the warmer parts the mango and *shīsham* are found in large quantities; but these give place to apple and pear-trees, to the picturesque *deodār* and shady Oriental plane (*chīnār*) in the colder parts.

Kr
133
132
311
[244]

Plains and lower hills.

The province may be roughly divided into three main divisions. The plains and *kandi* hills consist of the *tahsīls* of Kathua, Jasrotgarh, Samba, Ranbīrsinghpura, Jammu, Akhnūr, Mānawar, and Mīrpur. In the hot moist tracts, such as those irrigated from the Rāvi and Ujh in the Jasrota district to the south-west, sickness is so rampant that the resident population is too small for the cultivation of the soil, which is chiefly tilled by *salawad* cultivators, men from the low hills who descend to the plain for short periods to sow, tend, and reap crops, and return again to their healthier homes.

North of this lie the thirsty lowlands, sheltered by the hills from the cooler inland breezes, crossed with many channels (*kasīlas*), which carry off the drainage of the uplands and become

133
182
311
[134]

roaring torrents for a few hours after heavy rainfall, but at other times are broad stretches of burning sand. This tract depends for a full crop on timely and well-distributed rainfall.

The parched *kandí* hills are composed of a red loam, thickly strewn with round stones and covered with stunted growth of *garna zanatan* and *kahnikar* bushes, broad-leaved species of trees, acacias, and in parts bamboos. The *ter* (*Euphorbia*) is used to hedge the fields and cobble-paved paths, and to keep the *silpai* from damaging the crops. The soil is thirsty and dries quickly, as the land slopes and drainage is rapid.

• [141]

Frequent rainfall is necessary to ripen the crops, chiefly wheat, barley, and *sarshaf* (rape) in the spring, and millet and maize (on manured land) in the autumn; but rain washes away the soft earth and leaves the surface of the soil a mass of stones.

Where the *kandí* hills end, and before the first limestone ridge is crossed, there is a narrow belt of cool land lying in the valleys traversed by the clear streams which carry the drainage of the middle hills on the lower side. When the depth of soil is sufficient, excellent crops are raised and much of the land is irrigated; but on the slopes where the depth of earth is small, and the limestone crops up to the surface (*pradí*), cultivation is precarious. Too much rain causes the soil to become water-logged, as percolation is stopped by the rock bed; and during a continued spell of hot weather the rock surface becomes so heated as to burn the roots of the crops, which wither.

Irrigation.

512

In this portion of the province wells are few, owing to their cost. Except in the lowland bordering on the streams deep boring is necessary, and it is common to find that the water is from 70 to 100 feet below the surface. The cultivators are not as a rule sufficiently well-to-do to undertake the expenditure necessary to sink such wells, and risk the failure of finding water. Since the introduction of the regular settlement, the Darbár has done much to encourage the sinking of wells by the grant of advances on easy terms.

In this tract, however, are found the only considerable areas protected by irrigation. The natural difficulties to be overcome are great, as the lie of the land makes projects costly and difficult to execute. The lines of irrigation have to cross the drainage of the country, and it is not easy to secure the channels against damage from the *kadkr* when in flood. Owing to this difficulty, the more ambitious projects of former days—the Kashmír canal taking off from the Rávi above the

[For the [illegible] see Jammu—Kandi]

Mādhopur weir, the Shāhi Nahr taking off from the left bank of the Chenāb opposite Akhnūr, and the Katobandi or Dalpat Nahr taking off from the Chenāb on the right bank—failed to render permanent help to the country. Something has recently been done to remedy the apathy displayed in the past. Two old irrigation works taking off from the Tāwi in the Jammu *tahsīl*—the Jogi Darwāza canal irrigating the land immediately below Jammu city, and the Satwari canal irrigating the villages round Satwari cantonment—have been realigned and put in order; and the Dalpat canal, taking off from the right bank of the Chenāb and irrigating a large portion of the Akhnūr *tahsīl* lying immediately north of the Bhajwath Andar, has been reconstructed.

Under agreement with the Government of the Punjab the right of the State to take water from the Rāvi, above the Mādhopur weir, for the irrigation of spring crops in the Kathua *tahsīl* has been surrendered in consideration of an annual payment of Rs. 5,000. The restoration of the old Kashmīr canal, which takes off above the weir, is thus not financially attractive. Probably the low-lying portion of the Mīrpur *tahsīl*, known as the Khari Ilāka, could be irrigated from the Jhelum; but this source of irrigation has not been tapped.

There are many drawbacks to agriculture. The administration in the past was bad and shortsighted. There are practically no roads, and in the *kandī* tract even drinking-water is obtained with difficulty. Much damage is done by *sāgai*, hog, and monkeys, the first-named animal, though an antelope, being regarded as sacred like the cow. Cattle turned loose, either as likely to die and of no further use, or devoted to the deity, have become quite wild and do much damage to crops. Hindrances to cultivation.

Above the first limestone range lies a country of wide valleys and high hills, consisting of Basōli, Rāmnagar, Udhampur, Nandsera, and part of Riāsi. This has a more temperate climate than the tract just described. The supply of water by perennial streams is constant, but the stream beds are deep and irrigation is not easily effected. Being nearer the Himālayan range, rainfall is usually heavy and fairly constant, so that the people do not trouble themselves much about irrigation, except where this can be contrived at little expense. The crops are much the same as in the plains, but *kāiru* gives way to maize, and sugar-cane and turmeric disappear. The seasons are shorter. The areas of *pahāri* land, where the limestone bed penetrates or approaches the surface of the soil, are con- Intermediate land.

Kr 132 133 311 Kr (164)

siderable. Communications are backward and prices generally rule low. Trade is carried on by Telis, who keep droves of pack-bullocks or ponies. Grazing is good and the tract is frequented by Gújars, goatherds, and shepherds. A considerable export of *ghí* takes place. Wild hog and monkeys do damage, but no antelope are found. Autumnal fevers are very rare.

Uplands.

The higher uplands, including Bhadrāwar, Kishtwār, Rāmbān, part of Riāsi, and Rāmpur Rājaori, have a really cold climate, and in the winter snow falls. The cultivators are a different class from those in the plains and lower hills, and Kashmíri settlers are found. Here the mango-tree gives place to the apple; and the pear, the Oriental plane (*chinár*), and the *deodár* are found. The climate approximates to that of the valley of Kashmír, and cultivation is on much the same lines. The specialities are saffron in Kishtwār, and poppy in Dodār, Kishtwār, and Bhadrāwar. This tract is healthy, and only in the more shut-in valleys do fevers trouble the people. Irrigation is general and the rainfall heavy. Grazing lands are plentiful and Gújars numerous. Early snowfall and cold winds from the mountains affect the crops in the parts adjoining the Himálayan range, and prevent these coming to maturity in certain years. Bears, hog, and monkeys do some damage.

Kr [241] Kr (164) Kr [312]

Kashmír proper.

Owing to its system of rivers, Kashmír proper possesses a large area of alluvial soil, which may be divided into two classes: the new alluvial, found in the bays and deltas of the mountain rivers; and the old alluvial, lying above the banks of the Jhelum and extending as far as the *karewa*. The first is of great fertility, and every year is renewed and enriched by silt from the mountain streams. Up to the present, in spite of the lax system of forest conservancy, the silt of the mountain streams is rich and of dark colour; but the Sind river brings down an increasing amount of sandy deposit, which is partly due to the reckless felling of trees in its valley.

Ki 134

Soils.

The Kashmíris, so far, have considered no crop worthy of attention save rice; by irrigation and manuring an artificial mould has been obtained for the rice-fields, and it is rare to hear anything said about the original soil. But they recognise four classes which require peculiar treatment when under rice-cultivation. These are known as *grélá*, *bakil*, *sokil*, and *dansalad*. *Grélá* soil contains a large proportion of clay. It holds water, and in years of scanty rainfall is the safest land for rice. But if the rains be heavy, the soil cakes and the outturn of rice is poor. *Bakil* is a rich loam of great natural

Ki 243 134

Kr 311 Ki 134 Kr (164) Kr [241] Kr [312] Ki 134 Ki 243 134

Kr 132 133 311 Kr (164) Kr [241] Kr (164) Kr [312] Ki 134 Ki 243 134

AV1 Kashmir AV1 Kashmiri AV4

A HAND BOOK

OF

JAMMU AND KASHMIR STATE.

CHAPTER I.—PHYSICAL & POLITICAL GEOGRAPHY.

101 131 **Area.**—The total area of Jammu and Kashmir State is 84,471 square miles. It lies between 32°-17′ and 36°-58′ North Latitude and 73°-26′ and 80°-30′ East Longitude and is the largest State in India. It is larger than Hyderabad, about as large as Mysore, Bikaner, Gwalior and Baroda put together, and two-thirds the size of the whole of the Bombay Presidency.

Boundaries.—On the north it is bounded by Chinese and Russian Turkistan, on the east by Chinese Tibet, on the south by the Punjab and on the west by the North-Western Frontier Province. The territories of three powers, viz., Britain, China and Russia, and of the independent kingdom of Afghanistan meet on the northern borders of the State.

133 **Physical features.**—In addition to a small strip of land along the borders of Jammu, which is a continuation of the great plain of the Punjab, and a bleak tract adjoining the Karakorum Mountains, the territories of His Highness the Maharaja Bahadur of Jammu and Kashmir include valleys formed by the Chenab and the Jhelum and the middle reaches of the Indus.

Geographical divisions.—The generally accepted geographical divisions of the territories are as follows:—

1. The Sub-montane and Semi-mountainous Tract, consisting of the plain contiguous to the Punjab and broken kandi country skirting the Himalayan ranges. The rivers Ravi, Chenab and Jhelum and several perennial streams flow through the southern plain area, which borders upon several Punjab districts. Rice, wheat, maize and other crops are grown in this area. Canals drawn from the big rivers and small village streams are the main sources of irrigation. The northern portion of the region called

[241]

133 *kandi* has an altitude of 2,000 feet or less. Its soil [241] is stony and sandy and cultivation depends mainly [162] on seasonal rainfall. The area of this division is 2,609 square miles. The population at the census of 1941 was 8,14,028.

2. The Outer Hills, consisting of the comparatively low hills to the south of the mountain ranges. This division comprises the whole area covered by the ranges of low hills to the south of the Pir Panjal mountains, which divide the two provinces of Jamnu and Kashmir, one from the other. The altitude of the greater part of this belt varies from 2,000 to 4,000 feet, though the hills in Bhadarwah reach heights of over 5,000 feet. On the lower levels, and stretched between the hills are patches of cultivated lands or stunted forests. The higher elevations [241] are covered with pine and *deodar* forests. The cultivation is greatly helped by the proximity of the Pir Panjal mountains, whose tremendous altitude causes the moisture-bearing winds to deposit most of their aqueous vapours in this part of the country. Rice and wheat are grown in some parts, while maize is the staple food. The area of [162] this division is 9,769 square miles; the population at the census of 1941 was 11,67,405.

3. The Jhelum Valley, consisting of the valleys that drain into the Jhelum and the Kishanganga rivers. The mountains enclosing this tract have an average altitude of 12,000 feet. Many of the peaks exceed 14,000 feet. Water for irrigation is supplied by the perennial streams which have their sources in the surrounding snow-clad mountains. The Jhelum valley situated at over 5,000 feet above the sea level, and the beautiful lateral valleys of the Sindh, and the Liddar (the three together forming the famous Kashmir Valley) and the hilly tract of Muzaf- [241] farabad are included in this division. The Kashmir valley is fertile and yields abundant harvests of rice. Fruits of various kinds are produced. Wheat and maize are grown. In Muzaffarabad district, agriculture is precarious and the cultivated area is small. The area [162] of the division is 8,539 square miles; the population at the census of 1941 was 17,28,705.

4. The Tibetan and Semi-Tibetan Tract, consisting of the middle reaches of the Indus. The river has its source in Lake Manasarovar in Tibet and traverses the whole of the division running from south-east up to the

133 bend round Nanga Parbat, where it assumes a south-westerly course. The mountains in the north stretch up to the Pamirs, and reach great heights; one of the peaks, Mt. Godwin Austin 28,250 feet above the sea level, is [134] the second highest peak in the world. The Himalayan ranges north and south of the Indus have been described as the "Sportsman's Paradise", where ibex, *markhor*, and ovis ammon, besides other big game, are met with. A number of mountaineering expeditions have been to these regions for exploration. Except in Gilgit, the ranges in this division vary from 17,000 feet to 22,000 [141] feet. The cultivable area in the Ladakh district is very small and the rainfall deficient, and agriculture is carried on by artificial irrigation. *Grim* (a kind of wheat) is the chief crop and is grown even at a height of 15,000 feet. The small tract of Gilgit enjoys good climate and cultivation, and produces wheat and other crops and fruits. The [162] area of the whole division is 63,554 square miles. The population is very sparse—the density at the census of 1941 was 5 persons to a square mile and the total population 3,11,478.

The first two of these divisions form the province of Jammu, the third is Kashmir proper, while the fourth comprises the district of Gilgit and the Frontier *illaqas* of Skardu, Ladakh, and Kargil.

132 **Climate.**—The climatic conditions of the country vary from the arctic cold of the Ladakh district to the extreme heat of the Punjab plains.

In the sub-montane and semi-mountainous tract of Jammu Province, tropical heat is experienced. Kashmir enjoys a temperate climate in summer, but is very cold in winter. In the Frontier district, especially in Dras, Zanskar and Rupshu, there prevails extreme cold. The deep narrow valleys between Kashmir and Gilgit are hot and damp. Kishtwar and Bhadarwah have a more salubrious climate.

Rainfall is scanty in the Frontier *illaqas* and the Gilgit district, but in the rest of the State it varies from 30 to 65 inches a year. Reasi and Poonch receive more than 60 inches each annually. The annual rainfall of the Jammu district is nearly 45 inches and that of Kashmir Valley varies from 30 to 35 inches.

Places of interest.—(A) The following are some of the

(H) **Cultivated area.**—Of the total area of the State, 5.6 per cent. is cultivable and 4.9 per cent. is actually cultivated. The percentage of irrigated area to cultivated area is 35.1 The percentage of gross cultivated area under rice is 19.3; under wheat 19.5; under barley 2.3; under bajra 3.9; under maize 29.6; and under other food crops including pulses 10.7.

Dialects.—The principal languages spoken in Jammu and Kashmir Provinces are Kashmiri, Dugri, Punjabi, Gojri and Pahari. Bhotia and Shina are spoken in Ladakh and Gilgit. Owing to the existence of natural barriers, such as high and vast mountain ranges severing the Indus valley from the rest of the country, Bhotia and Shina languages have remained localized within their territorial boundaries and are not understood in other parts of the country.

Land Tenures.—Prior to 1933, land in Kashmir Province and in the Frontier districts was held by ***zamindars*** either in "***Haq-i-asami***" or as Tenants-at-will and in some cases also as Occupancy tenants. Under ***Haq-i-Asami***, all the land was owned by the State, the actual holders or ***asamis*** had the right of occupancy as against the State as long as they paid the dues, but had no right of alienation by sale or mortgage.

Transfers were, however, permitted within the municipal limits of Srinagar and in Anantnag, Shopian, Bijbihara, Pampore, Sopore, Baramulla and Muzaffarabad towns.

Tenants-at-will held land subject to the will of the proprietor, who could eject them at any time. In Kashmir, tenants-at-will included a large number of ***zamindars*** who had been found in 1924 to have encroached on huge ***khalsa*** areas and to have brought them under cultivation. Occupancy tenants had the right of occupancy of land under a proprietor or an ***asami***. They could not be ejected without special reasons, nor could rent on the land be altered at the will of the landlord. Their right was hereditary, and could be sold with the permission of the landlord.

Occupancy tenants were of two kinds, **viz.**, (1) those who held land direct from a land-holder or the State, and (2) those who held land under occupancy tenants of class (1). In Kashmir, occupancy tenants consisted mainly of tenants who held land at the first Settlement,

131 of Kashmir situated at over 5,000 ft. above sea level and the beautiful side
135 valleys of Sindh and Liddar also belong to this division.

241 It is needless to speak here of cultivation in the valley which is very close
161 and plentiful yielding abundant harvests of Shali (Paddy) the staple food of the Kashmiries. Irrigation[4] is supplied by the *Kuhls* drawn from natural water courses fed by the surrounding snow-clad mountains. The valley is famous for the large variety of its fruits which are exported to the plains in ever-increasing quantities. Besides rice or paddy, maize, wheat and tilgogla also are grown while Trumba (Buckwheat) is grown on the higher regions in small quantity. The area of this division is 8,539 square miles and the population comprises 1,569,218 persons.

131 (*iv*) *The Indus Valley or the Tibetan and Semi-Tibetan Tracts.*—These
135 form the central portion of the valley of the great river Indus, which taking its
161 source at the Mansorowar lake in Tibet proper traverses the whole of the frontier region of the State running from south-east to north-west upto the bend round Nanga Parbat whence it assumes south-westerly course till it enters the sea after covering a total length of 1,800 miles from the source. Enclosed by Karakoram on the north and the central range of the Himalayas on the south this division comprises three-fourth of the area of the State but on account of its high altitude and highly mountainous and barren character maintains a population of only 288,584 people giving a density of 5 persons to a square mile. Except Gilgit the ranges in this Illaqa vary from 17,000 ft. to 22,000 ft. and in Ladakh
631 there are vast deserts, *i. e.*, Lingkothang 1,6000 ft. and Kuenlun (17,000 ft. above sea). This includes the three separate administrative divisions: –

1. Ladakh District	...	1. Ladakh, 2. Skardu and 3. Kargil Tehsils.
2. Gilgit District	...	Gilgit Tehsil.
3. Frontier Illaqas	...	Hunza, Nagar, Yasin, Chilas, Ishkoman, Kuh-Ghizar, Punial Illaqas included in the Gilgit Agency.

135 The physical characteristics of the various portions of this country differ very widely and we have almost rainless and therefore dry and barren tracts of Ladakh on the one extreme and Baltistan and Gilgit with their lower hill sides and valleys verdant with orchards and corn fields on the other.

162 The Ladakh tehsil is peopled by the Mongoloid (Tibetan) race who
241 owe allegiance to Buddhism while Skardu and Kargil are inhabited by Muslims of Shia and Nurbakshi sects belonging to semi-Tibetan race called Balti. The cultivable area being very small and the rainfall very deficient agriculture is carried on by artificial irrigation with great difficulty and labour, and it is not uncommon that terraced fields are reclaimed at the foot of the overhanging cliffs. The Ladakhi custom of polyandry keeps the small holdings intact as the joint family and common-wife system of the Buddhists prevents fragmentation of holdings and also acts as a great check on population. Grain is the chief crop of Ladakh which grows even at a height of 15,000 ft. The population of Gilgit is constituted of Muslims of the Dard race and this small tract enjoys far better climate and cultivation than Ladakh; producing wheat and other crops as also fruits. The production in Political Illaqas is again of an inferior kind.

631 **2. Administrative Divisions.**—As at the preceding Censuses, the State may be divided administratively into two broad divisions :—

(*a*) The State proper.

(*b*) Dependencies and Jagirs.

4 [Errata: read "grain" for "grow" of cereals sheet, p. 329, category 08 — Analyst]

132 The cause of high precipitation here is that the Monsoon which manages to reach these outer ranges of the Himalayas is deprived of its entire aqueous vapour by these mountains on the Punjab side of the Pir Panjal preventing its onward march and penetration to the Happy Valley which is very slightly, if at all, influenced by Monsoons.

132 161 (b) The second belt classed as the Poor Rainfall Division (20" to 40") comprises ten tehsils which have a density above 200 excepting entirely mountainous tehsil of Kishtwar (18) and partly mountainous Anantnag. It is in this belt that the highly populated tehsils of Ranbirsinghpura (527), and Srinagar (501) are located as also the fairly dense tehsils of Pulwama (334), Sri Pratapsinghpura (334), Baramulla (252), Kulgam (248), and Mirpur (285). For Kashmir which has a temperate climate a rainfall between 15" and 40" is considered sufficient for all kinds of cultivation as in such regions both evaporation and rainfall are generally less and consequently the population all over the Kashmir Valley is fairly dense.

(c) Next comes the belt of a very poor rainfall (below 15") with Kargil (density 7), Skardu (13), Gilgit (19) and Ladakh (1) all of which come last in regard to density; Ladakh tehsil having a rainfall of 3" exhibiting one man per square mile. Here the relation between rainfall and density is self-evident.

The above shows that rainfall has a great influence over the growth of population in all tehsils provided other conditions are equal.

161 312 241 (b) *Density and Irrigation.*—For the conduct of cultivation, water is the essential element and where Nature is not liberal enough in the distribution of a fair quantity of rainfall artificial means of irrigation whether by canals, tanks or wells make up for the deficiency. Instances are numerous where barren and dry tracts of land have been converted into flourishing fields through the improved irrigational facilities and have in consequence attracted large masses of human settlers. Lyallpur in the Punjab with an annual rainfall of 15 inches had in 1891 a density of 7 persons to a square mile but during the last 40 years it has grown so populous that its density at 1931 Census has now reached to 368 persons and is still growing.

The non-reliability of Census statistics of the State before 1911 makes it difficult to properly appraise the effects of irrigational works in influencing the growth of population, but even during the last twenty years the increase of density in Ranbirsinghpura tehsil from 428 to 527 and that of Jammergarh from 241 to 281 and of Jammu from 313 to 387 is undoubtedly due in a large measure to the irrigational facilities afforded by the Ranbir canal and the Ujh and Basantpur canals in Kathua district.

133 141 (c) *Density and Configuration of the surface of Land.*—Even where the supply of water by rain or irrigation is sufficient cultivation will not be full if the surface of the land is uneven. Throughout India, it is the level plains (of the Ganges, Punjab and other rivers) which are most thickly populated as in such places every inch of the land can be brought under the plough and water can be retained in the field to supply the moisture.

The table given under rainfall and density shows that in the State also it is the level plains at the foot of the hills in Jammu and the plains of the Kashmir Valley that support large populations while the hilly tehsils of Ramnagar, Riasi and Bhadrah etc., inspite of having highest rainfall are not thickly peopled on account of their hilly character.

132 161 (d) *Climate.*—The presence of masses of snow-covered mountains and the high altitude render the climate of part of Kashmir Valley very cold during the winter and the closing of the passes to the Frontier Ilaqas during the

6:India G-3 (1931)1933 AVI Kashmir AVI

winter makes free communication almost impossible and under such circumstances the cold regions of the Frontier have little to offer by way of attractions for the growth of population which largely accounts for low density. Malaria which constitutes the chief cause of death in a majority of cases is greatly influenced by climate and consequently a malarial climate is perhaps the least conducive to the growth of population. Malarial climate of Kathua is an instance on the point.

(e) *Density and Crops.*—It is difficult to trace definite connection between the density and crops such as would lead to the formation of general formula on the subject ; and the hypothesis that " the tracts which can support most people are those where rice is grown ", although challenged by various Census officers, has been found to be true to a certain extent in the case of the tahsils of the Kashmir Province by the last Director of Census of this State.

(f) *Historical and Industrial Consideration.*—History of a tract has exercised a great influence over the growth of population, as the civilised countries were strong and good Government ensures Law and Order with its concommitant blessings of security of life and property and impartial dispensation of justice between man and man will naturally encourage expansion of population not only by growth from the indigenous elements but also by a flow of immigrants from outside.

To these may be added the prospects of industrial development based upon the factory system of large scale production requiring the services of numerous workers which compels the movement of the rural population to the Industrial Centres and results in the creation of new towns and cities. Such growth of population is equally visible in parts of country newly opened out by railways and roads which create fresh avenues for trade and exchange of commodities encouraging the transport of surplus agricultural or mineral production to such places where they are scarce.

IV. Variations in Population at Previous Censuses.

11. For statistical reference the Imperial Table II and the State Table I may be examined as also the marginal table which shows at a glance the results of variation during the past 40 years.

Census years.	Population.	Variation per cent. Increase (+) Decrease (−)
1891 ..	[illegible]	Not available.
1901 ..	[illegible]	+ [illegible]
1911 ..	[illegible]	+ [illegible]
1921 ..	[illegible]	+ [illegible]
1931 ..	[illegible]	+ [illegible]

From the Report of the 1891 Census which was the first proper Census of the State, it appears that some sort of enumeration was conducted in the year 1873 but its results were far from reliable. The Report does not record any figures of population of this Census but from other sources the fact of an enumeration having been undertaken in 1873 at least of the Kashmir Province is confirmed and the results of this enumeration give a population return of 491,846 persons for the whole of Kashmir Province inclusive of Muzaffarabad district.

It requires no elaborate argument to establish the unreliability of these figures as a simple comparison with the population of the Kashmir Province at 1891 Census reveals that the count of 1873 places the population at a very low figure. It seems on the face of it incredible that the population of Kashmir Province should have increased during a period of 18 years (1873-1891) by about 100 per cent. i. e. from 491,846 to 949,041 in 1891 especially when the highest rate of decennial increase of population during the subsequent decades has on no occasion exceeded +28 per cent. in the Kashmir Province and this high percentage of variation has not been accepted as reliable by the subsequent Superintendents of Census of the State.

161 722 people in the prime of their lives constitute very strong factors in reducing the birth-rate and the effects of War would naturally have been most disastrous on the population of the Jammu Province which supplies the ranks of the State Military. This factor greatly accounts for the small percentage increase of only 2·7 per cent. in the Jammu Province during the decade 1911-1920. In view of the above circumstances, the increase of 5·1 per cent. for the whole State during the decade was fairly satisfactory as compared with the average increase of 1·2 per cent. for the whole of India.

V. THE CONDITIONS OF THE PAST DECADE 1921-1931.

132 17.—From a survey of the remote past we turn our attention to the closing decade 1921-1930 with which our Report is principally concerned and start with a general review of the agricultural, economic and seasonal conditions of this period in some greater detail since these exercise a substantial influence over the growth of population. The quantity of normal rainfall during the decade has already been shown by districts in the Subsidiary Table I and by tehsils in the marginal table under the paragraph dealing with Density and Rainfall. What remains now is to trace the course of rainfall during the ten years drawing attention to the exceptionally dry years as also to the good rainfall periods. Instead of giving a general account of these conditions for the whole decade it would be more advantageous to discuss them from year to year as far as possible in order to single out the good and bad years and avoid the confusion which the running account of such a long period involves. In preparing this brief account frequent help has been taken from authoritative sources such as the Annual Administration Reports of the State as also the Departmental notes obtained from the Heads of the State Departments for purposes of the Census.

The 1921 Census having been taken on the 18th of March 1921 corresponding to the Bikrmi date (Chet 1977) our review should naturally commence with the Sambat year 1978 but as only one combined Administration Report of the State was issued for three years 1977, 1978 and 1979, it will be advantageous to take these three years together and so also the subsequent 4½ years' period till the adoption of Faslı year by His Highness' Government with effect from the 1st of Katik 1984.

Triennium 1977, 1978 and 1979 (1921, 1922 and 1923).—*Weather crops and general conditions of the people.*—In the Jammu Province the rainfall was untimely and deficient during 1977 causing damage to both the *Rabbi* and *Kharif* crops, but in 1978 and 1979 it was fairly distributed, timely and sufficient and in the last year the condition of crops was well above the average. In Kashmir the rainfall in 1977 was below normal and not well distributed partially damaging the *Rabbi* crops; in 1978 also unfair distribution damaged the *Kharif* crops; but in 1979 conditions of the crops improved by the advent of timely and sufficient rains. In Gilgit the abnormal rainfall and early snowfall of 1977 brought considerable misfortune to the *Rabbi* and *Kharif* crops though this very year gave equal distribution of rain and snowfall resulting in a good crop in Ladakh. 1978 proved, however, unpropitious as insufficient rainfall brought about a scarcity of food stuffs in Gilgit while in Ladakh crops suffered from excessive rainfall.

241 *Cultivated area.*—The total cultivated area in the State fell, from 2,036,080 acres in 1976 to 2,031,851 acres in 1977 and 2,031,824 acres in 1978 but rose to 2,050,054 acres in 1979.

164 435 *General condition of the people: Kashmir Province.*—The general health of the people was fairly good as there was no epidemic and the birth-rate was higher than the death rate. Prices ruled high in 1977 and experienced a slight fall in subsequent years 1978 and 1979. The rise in wages benefited the zamindars who, when free from agriculture took to labour. The number of live-stock increased.

Jammu Province—Prevalence of severe famine in Sambat 1977 followed by diseases of various kinds increased the death rate and it was not possible for the population of the Kandi Illaqas to recover from the evil effects till Sambat year 1979 when the season took a favourable turn resulting in good crops. The abolition of *forced labour* or *begar* also proved a great boon for the cultivators. 731 141

Frontier Districts—Prices were high and prevalence of famine conditions in 1977 and 1978 rendered the people destitute in Gilgit although in Ladakh the health of the people was better and the birth rate higher than the death rate. The burden of *begar* enforced for the sake of Supply and Transport Department is a sore vexation to the people and an impediment to agricultural operations.

Four and a half year's period—1900-1901-1902-1903 and first half of 1904 (1906-1905-1906-1907 and part of 1908)—*Summer*—In the year 1900 the rainfall in the Jammu Province was sufficient and well distributed there being no complaint even in Kandi tracts, while Maize caused belated sowings in 1901 but the position was removed in 1902 which gave sufficient and well distributed precipitation all over the province excepting portions of Rezzak and Kathua districts where excessive and untimely falls affected the *Kharif* crops. In 1903 and first 6 months of 1904 the rainfall was irregular, the Mirpur and Kathua districts suffering from insufficiency of rain while abnormal rains in Rezzak wrought much damage to life and property. 132

In the Kashmir Province the excessive rainfall in 1900 gave bumper harvests excepting the Anantnag tehsil, in 1901 the rainfall was comparatively much less but the deficiency was made up by sufficient snowfalls maintaining a richer and continuous flow in the irrigation channels and rivulets. In 1902 and 1903 and first 6 months of 1904 the precipitation was again sufficient and well distributed.

The Frontier Districts experienced scarcity of rains in 1900 especially in tehsil Kargil of the Ladakh district where the cultivated area decreased by 740 acres. In 1901 the fall was again not good but there was an increase of 344 acres in Gilgit and 50 acres in Ladakh in the area irrigated by *Kahls*. In 1902 there was again shortage of both rainfall and snowfall but fortunately the crops which have do not depend so much on rain as on artificial irrigation did not suffer there being an decrease in the cultivated area. In 1903 and the first 6 months of 1904 the snowfall was heavier in the Gilgit district and the cultivated area increased by 650 acres.

Cultivated area—The following table shows the variation in cultivated area during the 4½ years under review :— 241

Year.		Total area cultivated.	Variation.
1979	—	2,050,054	——
1980	—	2,049,793	—261
1981	—	2,039,836	—10,307
1982	—	2,037,830	—1,006
1983	—	2,043,287	+5,247

It will be apparent that the figures of area under cultivation had suffered a continuous fall since 1979 and it was only in the last year i.e., 1983 that an upward tendency began to demonstrate itself by an increase of 5,247 acres. The area irrigated also decreased during these years from 2,050,113 in 1980 to 1,043,300 in 1981 ; and to 1,038,319 in 1982.

The General conditions of the people : Jammu Province—The favourable season and good harvests of 1983 materially improved the condition

132 Sailaba Circle, which told heavily on *Rabbi* and *Kharif* crops. The Muzaffarabad district had well distributed rainfall and good crops. Hailstorms did severe damage in certain places. The year was immune from epidemics except[ing] [164] an outbreak of Cholera claiming 133 victims. There was a disastrous fire at Muzaffarabad and with the exception of the Treasury all State office buildings the Tehsil, Wazarat and the Court were burnt down.

435 Prices of *Rabbi* crops remained generally higher. The Shali situation was under full control. The general condition of the people was good. The fresh land revenue assessment of the Uri tehsil was announced during the year and was received well by the zamindars.

731 With the exception of Mirpur and Bhadarwah tehsils the Jammu Province had timely and sufficient rains and good harvests. The visitation of locusts constituted a great menace throughout the province including the Jammu city where as if to give a demonstration of their strength they one day invaded even the Government offices and in a manner the walls, the doors electric posts and trees were literally blackened by their swarming numbers and their flying legions outside actually clouded the sun from view. The Government spent considerable amounts in the destruction of the pests by actually offering price per maund of the eggs destroyed by the zamindars. The Revenue officers had a busy time and the visits of high officers and the interest taken by the Minister went a great way in freeing the country from the locusts.

● 241 Inscrutable are the purposes of heaven so instead of anticipated scarcity and starvation fields yielded bumper crops and the over-flowing of grain markets lowered the prices so much that they touched the bottom and the agriculturists began to find it difficult to adjust themselves to the changed conditions.

164 General condition of the people was on the whole average the year being immune from diseases. The import of grain free of duty continued as also the measures against venereal diseases and abduction of women.

132 435 **Fasli year 1997-98 (upto end of 1987).**—Although the Fasli year is styled 1997-98 our account ends with the close of Bikrami year 1987 when the final Census was taken.

Jammu district had well distributed rain attended with fair harvests; Mirpur had scarcity at *Rabbi* and excess at *Kharif* thus adversely affecting crops; Riasi and Udhampur districts had less rainfall than the previous year while Kathua had sufficient and timely rains. On the whole the rains were less favourable than of the past year.

The prices of grains showed a downward tendency due to the world slump; and fall in prices in the contiguous districts prevented the prices from rising here. Import of grain in Mirpur and Kathua continued free of customs duty. The general health of the people was satisfactory as there was no epidemic.

In the Kashmir Province the rains were scarce although better than the last year. There were no accidental calamities and no appreciable difference in prices. The general condition of the people continued good till end of 1987 as the political agitation started in the month of Har 1988 which does not fall within our discussion.

The condition of the zamindars is one of steady progress. The abnormal fall in prices in British India did not affect the Kashmir zamindars who obtained fixed prices from the Food Control Department which has proved a great boon both to the urban and rural population.

312 **32. Extension of Irrigation.**—Having discussed the character of the seasons, the condition of crops and the general economic condition of the people

[Errata: read "acreage" for "acreages"; cf. errata sheet, p. 221, category 114 — Analyst]

6:India, G-3 09501933 AVI Kashmir AVI

241 of people who for the past years were subjected to the ravages of famine and scarcity conditions. There was enough grain and to spare for exportation. The opening of Banihal Cart Road which is the one all-State route connecting the two provinces of Jammu and Kashmir was the greatest work of the decade. The health was generally good save in the Jammu 164 district where Plague caused much mortality. In 1981 the condition was 435 practically the same but there was no epidemic while in 1982 the general 241 economic condition was slightly better owing to the general fall in the prices of cloth, sugar, tea and salt which are the main commodities for which the remainder is dependent on the market. The higher prices of food stuffs also brought gain to the agriculturist. There was not much improvement in 1983 excepting the slight rise in prices of food grains.

Kashmir Province.—In Kashmir the year 1980 was responsible for good harvests, high wages, absence from epidemics, decrease in forced labour, flourishing condition of people and prohibition of import of Shali into Srinagar and permission for its export to British India by Private Agencies. In 1981 with the exception of a Cholera outbreak the province had fair harvests, nice weather and good economic conditions which but for the festive outbreaks of Cholera and Plague in 1982 were well maintained during 1982 and 1983.

Frontier Districts.—But for a mild attack of Influenza in Gilgit, the year 1980 proved to be a healthy year being free from disease and attended with satisfactory conditions. The people no doubt are generally poor which is due not only to the labour being unskilled and unable to fetch high wages but want of any industry or a brisk trade, the whole population being engaged in agriculture which unfortunately has no further land for expansion. The remaining years 1981, 1982 and 1983 were normal.

Fasli year 1984-85.—It is necessary to explain here the fact that His 805 Highness' Government ordered the abandonment of the old Bikrami year and adoption in its stead of the Fasli year which commences with the seventh month of the Bikrami year namely on 1st of Katik and closes with the month of Asoj. The first Fasli year 1984-85 started with the 1st of Katik 1984 (about the middle of October) and is represented in duplicate figures as shown above and consequently the conditions for the years after 1983 are represented by the Fasli years instead of Bikrami years.

Character of the Seasons.—The years 1984-85 proved very inauspicious 731 for Kashmir Province as the unprecedented and heavy rainfall continuing incessantly for well over two days brought disastrous floods which besides flooding 132 the valley inflicted terrible destruction on crops and cattle alike. All communications with the outside world were cut off and the Kashmir valley was for several days completely isolated. Although the Gorge in Muzaffarabad district did not, on account of high elevation, suffer so much from floods as through excessive rainfall yet the washing away of the Kishenganga and Domel bridges by the unprecedented floods both in the Jhelum and the Kishenganga rivers brought about a serious dislocation of the trade of the district by cutting off the transport communications between Abbottabad and Domel. During the winter when the snows block the Murree road all traffic between Srinagar and the Punjab is diverted to this road which is free from snow throughout the year but loss of the above two bridges rendered the use of this route by wheeled traffic impossible. The bridges have, however, been reconstructed now in 1932 i.e. after 4 years of their destruction and consequently this period was not favourable for the flow of the trade of this district. The tribals of Muzaffarabad district continued under the Settlement operations. The province was free from epidemic diseases but for the Small-Pox outbreak in Srinagar city in 1985 resulting in 1,222 deaths.

The annual Amarnath pilgrimage started in good weather from Srinagar but was overtaken by heavy transport rains accompanied by snows in high alt-

4 [Errata: read "first" for "first" See Errata sheet, p. 329, category 116 — Analyst]

245 654 **Silviculture.**—Great progress was made during this decade in silviculture. The establishment of a specialist Working Plan Circle enabled all the valuable commercial forests to be brought under modern methods of management, thus enabling the forests to be fully utilised without impairing their future productivity. Silvicultural research was undertaken for the first time and a special Research Division was formed.

[313] [314] *Commercial Development.*—Considerable progress has been shown in developing the commercial side of the department's activities. The out-turn of timber rose from 11 millions c.ft. to nearly 29 millions. The markets for minor products were developed and extended. The production of crude resin rose from about 4,000 maunds to 55,000 maunds greatly adding to the prosperity of the people in parts of Jammu Province where resin tapping has now become a well established village industry. Kashmir Artemisia has been brought under commercial working and now contributes considerably to the world's supply of Santonin.

General.—The expansion of the Forest Department's activities have very largely benefitted the people of the State. Not only has the larger income produced by the department enabled the Government to spend more money on social services such as education and medicine, but the increasing out-turn of produce has provided a great deal of work for the inhabitants many of whom now rely on forest works to enable them to pay their land revenues.

241 242 **38. Agriculture.**—A glance at Imperial Table X (Occupation), will show that by far the major portion of the inhabitants of the State depend on agriculture for their livelihood. The prosperity of trade and transport is also indissolubly linked with the bright prospects of agriculture for if the purchasing power of the masses goes low on any account a season of depression sets in the trading section of the community. The activities of the Agriculture Department in promoting the interests of farmers by introduction of better varieties of seed, more scientific instruments, better manures and last but not least by awakening a new interest in agriculture by overcoming the apathy of ages are particularly relevant to the Census Report. Any invention or discovery which can double the yield of crops in this country is bound to multiply to the same extent the mouths that feed on it. The activities of the Agriculture Department of the State are, however, unfortunately concentrated in the Kashmir valley only, and the province of Jammu has not derived any material advantage from its existence so far. The extension of the department's activities to that province on a larger scale is apparently necessary.

In the Kashmir valley the Agriculture Department maintains two experimental farms where several varieties of agriculture and vegetable seeds imported from India and foreign countries like America, England, Russia, Italy are tried and recommended for adoption to cultivators after the experiments have met with success on the Government farms. In some cases acclimatised seeds have multiplied the yield by 50 per cent. About 169 varieties of foreign vegetables are also grown on the farm. The seed is distributed twice a year in the valley and demands from other places are met by post.

241 177 *Implements.*—Several implements such as Meston plough, Horse Hoe, Bar Harrow, Chaff Cutter, Maize Huller and Sheller, Automatic Seed Drill have been introduced and though a few only of the zamindars who are enterprising enough have come forward to purchase them and try their utility on their farms an innovation has been started which might prove of considerable value in the future.

543 *Shows.*—Agricultural shows used to be held on the occasions of seed distribution and have now come to form a part of the Industrial Exhibition held annually in Srinagar. The Agriculture Department occupies a separate section where several varieties of different agricultural and horticultural products are exhibited besides the implements and provide a source of valuable information and instruction to the people. In 1929 an agricultural show was held at Jammu

6:India G-3 (1931)1933 AVI Kashmir AV I
W. Tibetans AJ4

K 161

decennial increase comes to 5·64 per cent. against 3·1 of the previous decade representing a fairly satisfactory state of affairs for these tracts.

K [121]

The total area of this division is 63,560 square miles or three-fourths of the area of the entire State while the population supported by this huge area amounts to only 288,584 persons *i. e.*, 7·9 per cent. of the total population leading to a resultant density of only 5 persons to a square mile against 183 of the Kashmir Province and 144 of the Jammu Province inclusive of Jagirs. The figures of density offer their own commentry and no words are needed to establish the extreme sparseness of the population in these parts. Taking into consideration of variation from decade to decade it will be evident that internally the tract has grown in population from 160,225 in 1891 to 288,584 in 1931 yielding a total increase of 128,359 persons or 80·1 per cent. in the forty years which represents the highest increase over this long period as compared with the other two provinces or any of the districts. But a study of the figures of percentage variation of this division in the Subsidiary Table No. III shows that there is a progressive decline in the percentage increase rate from decade to decade as is evidenced by the big fall from 44·0 per cent. decennial increase in 1891-1901 to 14·2 in 1901-1911 and to 3·1 in 1911-1921. This leads us to the conclusion that the figures of the earlier Census of these tracts were far from being accurate and as each succeeding decennium is conducive to greater accuracy we may rightly conclude that the rate of increase which is manifesting itself at the recent decades represent the true state of affairs and the figures of the remote decades are not free from suspicion.

Coming to density proper the present Census gives a record of 5 persons to a square mile against 4 of the last Census which naturally means an increase in density by 25 per cent. but looking deeper into the figures we see that the actual density in 1921 was 4·29 and in 1931 it is 4·54 which gives a net increase of ·25 and reduces the percentage increase to a reasonable figure of 5·8 per cent. from 25 per cent. shown above on the basis of round figures.

K 133 241

The reasons for this dearth of population in this part of the State are not too far to seek as the highly mountainous character of the tract coupled with vast treeless deserts at an altitude of 17 or 18 thousand feet above the sea-level offers very little attractions to settlers who will scarcely find any land available for cultivation here especially when only ·3 per cent. of the total area is fit for cultivation and the normal rainfall does not exceed 5·7" which is hardly suitable for growing any crops. The passes remain closed during the winter when communications are generally cut off and the transmission of post is also attended with considerable difficulty. There are no roads worth the name.

K 161

The decade under report presents a record of increase in all the constituent units and the variation from 1·7 to 4·72 in the Ladakh district marks a decided improvement while the lowering of the percentage increase in Gilgit and Political Illaqas is due to more careful enumeration leading to greater accuracy. It is a patent fact that at the present Census efforts have been made for the first time to obtain more detailed data of the Frontier Illaqas which hithertofore were enumerated on a special form having four or five columns instead of the General Census Schedule provided with eighteen columns.

W.T. 161

49. Ladakh District.—Having said so much by way of introduction we shall review the tehsil comprising this district in passing with the help of the marginal table. Starting with the Ladakh district having an area

Name of District or Tehsil.	Population 1931.	Density.	Percentage of variation.		
			1921-1931.	1911-1921.	1901-1911.
Ladakh District ..	178,338	4	+ 4·72	− 1·7	....
1. Ladakh Tehsil ..	84,425	1	+ 6·16	− 2·9	....
2. Kargil	66,338	7	+ 3·98	− ·1	....
3. Skardu	107,877	13	+ 4·40	− 2·6	....

[Errata: cf. category 116, p. 329 for corrections — Analyst]

The above reasons are of general applicability to all the Districts and Tahsils which registered an increase during the decade but some arguments are still necessary to explain the disparity between the rates of increase in the Jammu and Kashmir Provinces as also among the Frontier Districts. As already shown the increase in the Kashmir Province amounts to 11·32 against 9·03 of the Jammu Province and 5·04 of the Frontier Districts. The prolific nature of the Kashmir Province is now an accepted fact which has its root in the healthy climate of Kashmir enjoying immunity from the malarial season and the visitations of Plague which work a great havoc in the sister province of Jammu, and the only epidemics being Cholera and Small-Pox over which man through modern inventions has obtained considerable control. The excellent conditions of agriculture, the rich alluvial soil, natural sources of irrigation, the level sheet of contiguous fields extending over the whole valley where water can be easily stored and retained in the fields to produce rice (Paddy) in rich abundance always ensure rich harvests and consequently keep the province secure from famine. In Jammu Province only 14·4 per cent. of the area being irrigated (against 50 per cent. of Kashmir Province), 85 per cent. of the area has to depend upon the mercy of the rains absence or dearth of which not only means absence of crops but also the absence of drinking water for human beings and the animals in the Kandi tracts whose population have often times to leave their homes temporarily to save themselves from starvation. Besides agriculture various other subsidiary means of raising income are open to the Kashmir population—Cocoon rearing, sale and export of fruits such as apples, pears, walnuts and almonds etc., and Cottage Industries of different kinds followed in the spare hours of winter such as Loi-weaving, embroidery, preparation of fire-pots (*Kangries*), twig baskets etc. During winter a large number of surrendar population of Kashmir emigrates to the plains of India to work as labourers and return to their homes to revive agricultural activities as soon as spring sets in. This migration helps the emigrants to feed themselves during the five winter months from wages earned as also to bring a good portion of their earnings to their homes on return. Influx of large number of visitors, European and Indian, gives great impetus to trades and handicrafts of Kashmir which factor is totally absent in Jammu or the Frontier Districts. The last though not the least factor responsible for the higher increase in Kashmir Province is the fact that the population consists predominantly of Mohammedans who on account of prevalence of widow re-marriage, a more generous and rich dietary and harder life and for other reasons which will be discussed in the Chapter on 'Religion' multiply much faster than the Hindus. This is amply borne out by the figures of All India increase which for Muslims shows an increase of 13 per cent. against 10·4 per cent. of the Hindus. As regards the State the rate of increase amongHindus is still lower as will be shown in the Chapter on 'Religion' although the rate of increase amongst Muslims is also slightly lower than British India.

12. Pressure of Population.—The extremely low density of 43 for Jammu and Kashmir is apt to give rise to the wrong impression that the State is very thinly populated and consequently has ample room for expansion of population without any immediate fear of its pressing upon the means of subsistence. But in the determination of the pressure of population on food-supply the spatial density is not the governing criterion but on the other hand to arrive at some conclusion we must calculate density not on the entire area of the State but upon the net cultivated area—

Name of District.	Pressure per square mile of net cultivated area.	
	Net cultivated area in acres.	Persons per square mile.
Jammu and Kashmir State	2,919,000	1,227
1. Jammu Province (including Jagirs)	1,130,700	1,081
2. Jammu District	220,000	1,000
3. Kathua "	131,777	1,000
4. Udhampur "	138,000	1,000
5. Reasi "	147,000	1,000
6. Mirpur "	200,000	1,000
Jagirs	297,000	1,000
7. Poonch Jagir	100,000	1,000
8. Chenani "	7,000	1,000
9. Kashmir Province	1,788,300	1,000
10. Srinagar District	500,000	1,000
11. Baramulla "	300,000	1,000
12. Muzaffarabad "	188,000	1,000
13. Frontier Districts (including Political Agency)	89,300	1,000
14. Ladakh District	70,000	1,000
15. Gilgit "	11,000	1,000

4 [Errata: read "of" for "in" ; cf. errata sheet, p. 329, category 116 -- Analyst]

161 241 figures whereof are given in the margin by districts. When we keep in mind the fact that out of a total area of 84,471 square miles only about 5 per cent is cultivable and 4 per cent, not cultivated the bulkiness of the calculation on the basis of spatial density is at once brought to light.

The table shows that density on net cultivated area is highest in the Frontier Districts being 1,616, it is 1,221 in the Kashmir Province and 1,021 in the Jammu Province which reveals not a very hopeful state of affairs during an ill does sufficient compensation for cultivation. If agriculture is to form the principal source of livelihood of the State population it would appear that the pressure on the resources is already exerting itself in most of the districts and is almost overstepping the limits so far as the Frontier Districts are concerned. Even in these figures different kinds of crops enter into calculation and vitiate the inter-district comparisons. Since it is ultimately the quantity of food produced on a cultivated area and not the bare area which is to support the population, the fertility of the soil, rainfall, irrigation are also factors which have naturally to be considered. For example the density of 887 in Mirpur district whose soil is not so rich and rainfall is deficient and irrigation negligible might present a greater pressure than a density of 1,304 for Srinagar district which has a richer soil and better irrigation. For want of upto date and reliable quantitative figures of agricultural production (in tons or maunds) for the different districts or for the whole State we are not in a position to say whether our food-supply is keeping pace with the increase of population or what further population it can support; but from the statistics obtained from other sources we find that far from being self-sufficient in the matter of food-supply the State has during the past two years been all along importing food-grains to meet the shortage of local supply. The following table prepared from the trade statistics of the State during the past decade gives us a fair insight into this problem. It will be seen that save for the year 1931 when the exports of food-grains considerably exceeded the imports for which the removal of embargo on the export of rice from Kashmir is chiefly responsible, the normal conditions have always required the supplementing of the local production in the Jammu Province by imported food-grains as is evidenced by the higher figures of import as compared to export. The largest quantity imported was 630,400 maunds in 1929 when on account of prevalence of famine in the Jammu Province and exemption from import duty granted by Government the imports flooded the State markets to make up for the local deficiency.

439 STATEMENT SHOWING QUANTITY OF GRAIN IMPORTED INTO AND EXPORTED FROM THE JAMMU AND KASHMIR STATE FROM SAMBAT 1978 TO 1986-87.

Name of year.	Jammu Province.		Kashmir Province.		Entire State.	
	Quantity in Maunds.		Quantity in Maunds.		Quantity in Maunds.	
	Import.	Export.	Import.	Export.	Import.	Export.
1978 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1979 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1980 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1981 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1982 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1983 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1984-85 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1985-86 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1986-87 ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Average ..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*[Errata: read "congestion", cf. errata sheet, p. 329, category 116 --Analyst]

Taking the average of the nine years for which the trade figures have been tabulated our average annual import of grains amount to 285,426 maunds while exports come to 170,000 maunds which yields a net excess of 115,426 maunds imported grain, and reasonably proves that we are not self-sufficient in the matter of food-supply. 241 439

Again a study of the provincial figures shows that it is the Jammu Province which is not self-supporting and stands in need of supplementing its food requirements by import while the Kashmir Province is on the whole self-supporting except, of course, in the years of scarcity and famine. In normal years this province produces enough and to spare provided there is no wastage; but we export by the Government in the interest of keeping sufficient reserves within the country for future years. The average of the last nine years yields annual imports amounting to 21,283 maunds and exports amounting to 83,333 which shows an excess of about 300 per cent. exports over the imports for the Kashmir Province.

There is no gain-saying the fact that with the extension of irrigation and improvement of agricultural methods considerable increase in food-supply can be effected for some time but since the cultivable area is very small the tendency to diminishing returns from agriculture must set in probably after a few decades especially when the fragmentation of holdings and deficiency of land available of area in the Outer Hills, the Indus Valley and larger portions of the Sub-Montane Divisions constitute serious handicaps to the application of Western methods of agriculture here. 000

Considering, however, the rate of growth of population which on the average comes to about 9 per cent. the situation is not in the least alarming as the numbers at this rate can only double themselves in 110 years and it is believed that with the increase in the area brought under cultivation, advance in the extension of irrigation, use of fertilizers and scientific methods of cultivation the production should be able to keep pace with the increase of population and consequently the tendency to over-population is not an immediate terror although it should at the same time be borne in mind that the increasing numbers will only be able to drag on existence at a low standard of life unless a substantial improvement takes place in the national income per head through the progressive industrialization of the country. If necessary relief is not extended to agriculture by release of pressure from land and its diversion into fruitful channels of trade, industries and other occupations the over-population would in the next few decades stand before us as a stubborn fact and Nature will be compelled to introduce and effect adjustment through positive checks if we do not ourselves have recourse to the preventive checks.

14. **Checks.**—In this connection our account will not be complete unless we briefly take notice of checks which control the growth of population in the State. The checks are of two kinds (1) Positive and (2) Preventive.

1. *Positive.*—The positive checks are those which cut down numbers already brought into existence such as :—

(a) Starvation.

(b) Disease.

(c) War.

(d) Misery in all its forms.

2. *Preventive.*—The preventive checks prevent numbers from being brought into the world :—

(a) Infanticide.

(b) Postponement of marriage.

SUBSIDIARY TABLE I.

Exploitation of animals and vegetation shows the highest proportion in working dependency amongst the rural and the nomadic with actual both, for in agricultural operations, the co-operation of the family is indispensable and even young boys and girls of the family are set useful, drafted to some minor work such as tending the cattle or cutting grass etc. The adults cannot be spared at all. The work, moreover, proceeds on empirical methods and does not require for the execution any technical preliminary training except such scrappy knowledge which every farmer's son possesses. Materials support such a comparatively small proportion of the population that its working dependents need no remarks. Persons living on their income have also a larger ratio of working dependents because the entertainment of swarms of menials requires supervision, and co-operation of the members of the family cannot be dispensed. Industry also has a respectable figure against it as several persons follow sub-work owning as a spare-time occupation at home and of them quite a large proportion consists of women and children. The figures against unproductive are easily understood. The minor boys and girls of beggars and vagrants follow the calling of their parents as soon as they can handle the bowl and can steer a few hackneyed phrases of their profession. A trip to Kashmir will explain to any one the nature of working dependency in transport where he will find all the members of the Bhatti family tracing the boat. As regards trade, in the Mahratti boys of a tender age are made to work in the shop to assistants and thus serve a sort of apprenticeship before they are full-fledged shopkeepers.

The ratio of working dependency is lowest in public force and public administration as it ought to be.

151. Proportion of Female Working Dependents per 1,000 Male Working Dependents.—It will be seen from the marginal table that in some of the important occupations women assist the earners more than the male adults. In industry and trade they are in excess of the working dependents of the other sex. In unproductive they are happily less. In exploitation of animals and vegetation which is obviously a male department they do not stand as competitors. In public administration they are sufficiently advanced. On the whole there is an enviable position and nobody will venture to say that they are the same as their sisters of old. A change for the better has indeed come over them which will surely prove of great economic value to the nation in days to come.

Occupation	Proportion of female working dependents per 1,000 male.
1. Exploitation of animals and vegetation	0
2. Exploitation of minerals	0
3. Industry	1,000
4. Transport	1,000
5. Trade	1,000
6. Public Force	0
7. Public administration	0
8. Professions and Liberal Arts	0
9. Persons living on their income	0
10. Domestic service	1,000
11. Insufficiently described occupations	1,000
12. Unproductive	1,000

I. Some Important Occupations.

152. Agriculture.—Of all cultures agriculture is the best as without it the vital requirements of human existence cannot be met. Cultivation in the State engages 350,804 earners and 192,521 working dependents, making a total of 751,385 workers. In 1921 the number of workers was 967,230 and females numbered 250,745 who now show a low figure of 57,965 only. If this difference in the figures of females were to be added to the 1931 total the figures of earners and working dependents would exceed those of 1921. It would be absurd to think of so many women defaulting from the profession in a single decade and all that can be said is that the differences in classification have labelled the 1921 female workers in agriculture as working dependents in domestic service.

The important constituents of cultivators are :—

162
241

Non-cultivating proprietors, cultivating owners, tenant cultivators and agricultural labourers.

Class.	Total strength of cultivators.	Strength in case of cultivating classes.	Percentage of total cultivators under cultivation.
Non-cultivating Proprietors	[illegible]	[illegible]	1
Cultivating Owners	[illegible]	[illegible]	46
Tenant Cultivators	[illegible]	[illegible]	53
Agricultural Labourers	[illegible]	[illegible]	1

The figures of owners under non-cultivating proprietors compare favourably with those of 1921 and if we add the working dependants of this group the figures will be in excess of those in 1921 by 14,571 i. e., nearly 50 per cent. increase would be exhibited. The non-cultivating proprietors comprise only 1 per cent. of the total owners under cultivation which points to the fact that the holdings of land are generally small and cannot support a big leisure class. The cultivating owners are the most numerous members of the profession which augurs well for the politico-economic stability of the State and its people as peasant proprietorship is a solid foundation of social structure. A peasant-proprietor cultivates a keen interest in his work and is alive to the need of increasing the productivity of land without exhausting the soil, unlike the tenant-cultivator whose main interest is to get maximum yield from the land with minimum outlay or the non-cultivating proprietor who merely acts like a suction pump drawing the highest rent possible. The tenant-cultivators form 54 per cent. of the total owners of this class while agricultural labourers are only 1 per cent. The preponderance of tenant-cultivators is prejudicial to agricultural improvement and it is fortunate that their proportion is not over-whelming. The lowest figures for agricultural labour are probably due to errors of enumeration which have led to an inflation of the figures under general labourers.

652
654

193 **Government Aid to Agriculture**.—As stated in extenso in Chapter I of the Report agriculture is the subject of special concern with His Highness' Government. Irrigation has been extended on a large scale, co-operative societies have been started to finance agriculture, usury has been crushed, Agricultural Department is doing its utmost to introduce new crops and increase the quality and outturn of existing ones though its activities are practically confined to Kashmir Province only, remissions and suspensions of land revenue are frequent, Taccavi advances are made to agriculturists in distress, Veterinary hospitals are provided and some other special concessions have been made. The task so far accomplished is worthy of record though much remains to be done still. The chief drawbacks of agriculture are difficulties of communications and lack of marketing facilities together with the backwardness of people who have no scientific knowledge of the subject. Agricultural education is the first and foremost necessity for a country which has its being bound up with agriculture. The marvellous change that this sort of education can bring about will be clear from the statement of Mr. M. H. Jenkins, in his Report to the Royal Commission on Technical Instruction, wherein he says "the results of agricultural education in Denmark have been something extraordinary. Danish butter is now the best in the world; in 1880 it was described by the British Vice-Consul at Copenhagen as 'execrably bad', the progress since is directly traceable to agricultural education". As circumstances are, the produce of all principal crops per acre is unenviably low compared to that of other countries and in spite of more than 70 per cent. of the population relying on this source of livelihood the State is not self-sufficing in matter of grain produce and has to import food staples in large quantities from outside.

241

241 The second drawback viz. lack of adequate marketing facilities due to the hilly nature of the country and remote situation of districts which are connected with the exporting centres by means of bridle paths also considerably impedes the advancement of agriculture as the agriculturist does not get a fair return for his labour. Moreover, as the work is conducted at present there is a horde of middlemen who intercept a major portion of the profit and while the agriculturist gets very little the consumer has to pay much more. The intermediaries cannot be swept off once and all as they are an essential part of the modern business organism but their number can be considerably lowered by better organisation for marketing of produce. Much in the end depends upon the human factor, however. The people who look to Government for solving all their troubles financial or otherwise, have not yet learnt the A. B. C. of self-reliance and are very poor stuff for advancing the cause of a particular business. Self-reliance and ability to make a combined effort are pre-requisites of success in every field and agriculture is no exception. "The improvement of agriculture must in the first place be the work of the agriculturists themselves". (League of Nations, Report and Proceedings of the World Economic Conference 1927, Volume I page 321).

162 472 196. **Industry**.—In still near the cent-crowing in the State. The countries of the world are usually divided into two classes viz. Industrial and Agricultural. In the latter class custom and status predominate over competition and contract; there is uneven distribution of the population in various occupations due to agriculture monopolising the field. Small scale industries with little capital exist, credit is undeveloped and usury prevails. As will be seen from the table given in para. 189 of this chapter industry claims only 9 per cent. of the total earners compared to 73 per cent. of the first subclass. And even this weak fabric of industry is mainly reared by the shoemaker, potter, barber, blacksmith, carpenter, flour grinder, weaver, dyer, tailor and scavenger and others of the kind, who—thanks to the caste system—are so wedded to their professions that they cannot shake it off entirely. Were it otherwise the structure of industry would crumble to pieces. The cause of this low proportion may be found in several factors notably competition of machine-made goods which attract by their cheapness and make the indigenous worker's calling more and more precarious. A change has also set in in the tastes of the people due to the impact with Western civilization. All this has told heavily upon the number of village artisans who find it unremunerative to engage in their hereditary calling and desert it in favour of agriculture, thus adding to the concentration on land progressively, and as a conclusion "the economics of a country which depends to so great an extent upon agriculture must be unstable" (Montagu-Chelmsford Report).

162 196. **Transport**.—Engages only 1 per cent. of the total earners. The total workers under this head are comprised of 8,925 earners and 462 working dependents. Transport by air is non-existent in the State and the 4 male earners shown under this group are undoubtedly immigrants. Transport by water and road play most important parts. The former has a total of 3,927 earners and 292 working dependents. The largest number is reported by the Kashmir Province where the navigable Jhelum and a net work of other streams and lakes make transport of goods from place to place by water easy and cheap. In the Jammu Province which is hilly, the rivers are tempestuous and do not offer any large scope for this form of transport. The Chenab, for instance, allows boats to ply after it has entered Akhnoor but even here and beyond it the boats are only ferry boats and do not serve as connecting links between different towns. In the rainy season again the rivers are so turbulent that all navigation comes to a stand still.

The strength of 512 earners in the Jammu Province out of a total of 8,923 is thus easily understood. The Frontier Districts which beat even the Jammu Province in their hilly character have no earners under this head at all. Even the small number in the Jammu Province is made up of labourers employed on rivers and canals and other persons employed in harbours, docks etc. It was stated in Chapter III that the natives of Mirpur district are found generally in the

[Errata: read "over"; cf. errata sheet, p. 330
category 116 -- Analyst]

6:Spate N-4 (no date)1954 AWI India KASHMIR AVI

Sub-Himalayan Kashmir: Punch and Jammu

Very broadly speaking, Kashmir consists of two huge mountain masses —the Karakoram in the far N, the Himalaya/Zaskar to the S, with the Indus entrenched between them; and, on the So flanks of the main Himalaya, the famous Vale, walled in by the Pir Panjal which in turn breaks down into the lower but highly dissected Tertiary hills of the Punjab border (Figs. 63, 64). In actual fact the detail is exceedingly complex and the breakdown into seven units of study rather arbitrary, though not entirely so. 133

Kashmir includes a narrow strip, 5–15 miles wide, of the Punjab plains, here at 1100–1200 ft; this tract is badly ravined and of little significance except for the inclusion of the Mangla headworks of the Upper Jhelum Canal. N lies a belt of Siwalik terrain, hills up to 2000–4000 ft, largely anticlinal and overlooking a series of *duns*—longitudinal valleys—succeeded in turn by the Miocene Murree sandstones and Eocene Nummulitic limestone at 6000–8000 ft. The Siwalik zone, a "pile of rock waste" up to 20,000 ft thick, has undergone very recent folding and faulting, including early Pleistocene thrusting. In the earlier Tertiary zone strike-faults have disrupted anticlines and brought in massive Permo-Carboniferous limestones forming the higher ridges. The upper Murrees are preserved on the downthrow (So) side, while to the N the lower Murrees and the Nummulitics, resting with a great unconformity on the Permo-Carboniferous, are greatly disturbed and the terrain correspondingly confused; yet, "although dissection is intense, their heights display unmistakable signs of an older topography. Levelled spurs and plateau remnants, valley flats and abrupt terminations of high valley floors along master streams, indicate a mature relief which underwent rejuvenation".[1] This sub-Himalayan zone ends in the great boundary thrust-faults, beyond which the Pir Panjal rises steeply.

Rainfall varies with aspect, but in general lies between 35 ins. in the W and 28 in the E, with a fair contribution in January–March; temperatures are of course affected by altitude and aspect. The low outer ridges carry a sparse dry scrub, the inner rather better forest, largely of *chir* or *chil* (*Pinus longifolia*); but felling for rafting into the Punjab has made serious inroads. 132

The Siwalik and Murree terrain, with thin thirsty soils, very liable to erosion and often degenerating into pebble-spreads, is agriculturally poor, as are the limestone slopes. Here and there, in *duns* and in a piedmont belt at the foot of limestone scarps, conditions are better. Irrigation is limited, as the water-table is generally deep for wells, and channels are liable to be overwhelmed by spates from the numerous transverse gullies; while some lower areas are so fever-ridden that cultivation is largely carried on by a 134 241

[1] de Terra (1939), 8, 18. Until further notice, citations to de Terra are from this very admirable work.

Gazetteer 3:4 (no date)1954 AWI India
Kashmir AWI

241 seasonal immigration of hillmen. Wheat, barley, and rape are grown as rabi, maize and bajra as kharif. Higher up, in wider, better-watered valleys, bajra gives way completely to maize. Irrigation is difficult here also, as streams are incised, but it is not so necessary as in the lower valleys.

135 The unexploited mineral resources of the region are important. In Riasi Dt the Nummulitics contain three or four small fields with seams of anthracite (carbon 60–82%) up to 20 ft thick; farther W the coal is very friable and the thin seams too disturbed to be workable. The pisolitic limonites and ironstone of the same area and formation were exploited by indigenous methods in the past, and in view of the general mineral poverty of Pakistan might have some importance should she secure title to the area. The basal Eocene beds are fossil laterites, an old land-surface on the Permo-Carboniferous, and contain patches of pure bauxite forming a large reserve of aluminium ore.[1]

161 The region is fairly well peopled: densities range from 327 in Jammu and 563 238 in Mirpur to 144–174 in Riasi and Kathua, which contain definitely mountainous areas. All these showed decreases 1931–41, by as much as 15% in Jammu. The SE is strongly Hindu, 60–70% and locally over 80%, and should partition take place Jammu, Kathua, and Udhampur would be indisputably *Indian*: this is the home of the Dogras, the dominant minority in the state. Jammu (50,379) was the original base of the ruling house, whence the official title of the state is 'Jammu and Kashmir'; it is still the winter capital and the terminus of the only railway, a short line from Sialkot. To the W Punch is over 90% Muslim, a feudatory generally on bad terms with its Kashmiri overlord.

433 The whole region is of less significance in itself than in relation to W [313] Punjab. The SE might well be detached, but the rest normally plays a very important part in the economy of W Pakistan. Its forests are the main [371] supply for a country desperately short of timber,[2] while Riasi might at least mitigate the mineral deficiency. In addition the importance to the W Punjab of the Mangla headworks and of the hydro-electric potential can hardly be over-estimated.

133 Finally we may note the essentially similar, though rather higher, country across the Jhelum, which forms much of Rawalpindi and Hazara 274 (NWFP). Murree, a hill station at the usual 6500–7500 ft, was chiefly noted for brewing; the high barley acreage of the region may have been significant.

The Pir Panjal

133 The Pir Panjal is in a sense a bifurcation from the main Himalaya farther E. Structurally and lithologically it is most complex; thrusting is important

[1] D. N. Wadia, *Geology of India* (1939), 339, 348, 431–2.

[2] The *Indian* counter-argument that the main customer was the railway system, three-quarters of which went to *India* on Partition, is transparent enough.

6:Spate N-4 (no date)1954 AWI India Kashmir AVI

132 *Temperature ° F.*

J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.	
30·7	33·0	45·1	55·7	63·9	69·9	73·0	70·8	64·0	53·2	44·0	36·3	Ra. 42·3

Precipitation, inches

2·7	2·8	3·6	3·8	2·3	1·5	2·2	2·3	1·6	1·2	0·4	1·5	Tot. 25·7

While the difference between the annual means at Simla (7200 ft) and Srinagar is less than 2° F. (55·1 at Simla, against 53·3), Simla temperatures for January, February, and March are 8·1, 7·6, and 6·4° above those of Srinagar, but those of July and August 8·7 and 8·0 less; the range at Simla is only 28·1°. Much of the precipitation is snow; the usual rains months (June–September) receive only 8·7 ins., January–March 9·1. It must be remembered that Srinagar is in the very bottom of the Vale, which as a whole receives 32–35 ins.

136 There is naturally a strong vertical zoning of climate and vegetation, and differences in exposure to insolation are most important. Immediately below the forests maize is the most important crop and walnut trees are numerous; at 7000 ft "hardy and stunted" types of paddy come in, to be succeeded by the better paddy of the lower terraces and the marshy tracts where the streams wind along through groves of willows.

●241 The side valleys . . . have certain features in common. At the mouth of the valley lies the wide delta of fertile soil on which rice, plane-trees, mulberries, and willows grow luxuriently; a little higher up the land is terraced and rice still grows, while the slopes are ablaze with the wild indigo, till at about 6000 feet the plane-tree gives place to the walnut, and rice to millets. On the south bank of the river endless forests stretch from the bottom of the valley to the peaks; and on the north bank, wherever a nook or corner is sheltered from the sun . . . pines and firs establish themselves. Further up . . . millets are replaced by buckwheat and Tibetan barley. Soon after this the useful birch-tree appears, and then come grass and glaciers, the country of the shepherds. [16]

Agriculture

811. Kashmir as a whole contains some 52 m. ac., of which 44 m. are unsettled or have no agricultural returns. Of the balance of 8 m. ac. about a quarter is cultivated, and a third of this quarter is in the Vale. Rice at lower and maize at higher levels are dominant, nearly half and over a third of the TSA respectively. Wheat has 10–12%, and the only other crops of much areal significance are linseed and rape.

241 Farming methods are very distinctive. Not much care (except the use of a rough rotation) is given to crops other than rice and garden produce. Rice is intensively manured, sometimes by piling farmyard refuse at the irriga-

[16] *Kashmir Gaz.* (1909), 6.

6:Spate N-4 (no date)1954 AWI India
Kashmir AWI
241

tion entry, so that it is distributed over the field as liquid manure. The droppings of the animals in the winter, when they are kept indoors, are kept for the fields; in the spring sheep are folded on the fields, and turves cut from the marshy stream-banks are particularly useful. Near Srinagar the market gardeners use poudrette from the city's refuse. Rice seeds are pre-germinated in water; the labour of transplanting rice is rendered even more arduous than usual by the necessity of weeding out various hill grasses which only an expert can distinguish from paddy seedlings; four weedings are needed in broadcast sowing. Maize is grown in association with grazing, high yields being obtained by folding buffaloes and cattle on the fields; at lower levels it is grown mainly on the heavy peaty soils along the Jhelum. Dry crops, including a little cotton, are grown on the *karewas*, rape or mustard on soft reclaimed swamp soils. Near the limit of cultivation buck-wheat and *grim*—the naked Tibetan barley—are the only reliable food-grains; the former is also a useful stand-by lower down, as it can be sown late on almost any soil if the season seems likely to be unfavourable.

Irrigation is almost essential, and over 400,000 of the 750,000 or so cultivated acres are irrigated. Practically all irrigation is by *kuls*, leats led off from the *karewas* streams, made and maintained by landowners or villagers; these ar difficult to keep in good order where they run along the steep and erosion-liable *karewas* flanks or cross ravines in wooden aqueducts. Their numbers are astonishing (Figs. 65, 66). The mountain streams bring down good silt from the snow-melt, except where deforestation, as in the Sind Valley, has led to sand-spreads. Springs are sometimes used for irrigation, but they bring no silt and their waters may be cold enough to affect plant growth adversely.

Agricultural rhythms are, of course, differentiated from those of the sub-continent as a whole by the cold winters, which also affect tillage. "In March . . . the soil has perhaps been worked by the frosts and snow; but if, as is sometimes the case, no snow has fallen, it will be difficult work for the plough-bullocks, thin and poor after the long winter, to break up the soil." With this dependence on the spring melt the aspect of the

Fig. 66.—Section in the Vale of Kashmir. Irrigated valley between two *karewas*, c. 20 miles S of Srinagar; vertical exaggeration 3 : 1. Ticks below section indicate *kuls* (40 within 6 miles); horizontal bars above, areas not cultivated.

6:Spate N-4 (no date)1954 AWI India Kashmir AYI

snow on the mountains is the cultivator's anxiously observed guide to the chances of the ensuing season. The agricultural calendar is roughly as follows:

March	ploughing, manuring with dung of winter
April	fertilising with turves from stream-banks; paddy, linseed, and sesamum sown (kharif)
May–June	rape harvest; *grim* sown (above 7000 ft)
June–July	paddy weeding; barley and wheat harvest (rabi)
July–Aug.	linseed harvest
Aug.–Sept.	ploughing for rabi wheat and barley; *grim* harvest
Sept.	ploughing for rape; rape sown
Sept.–Oct.	paddy and sesamum harvest; wheat sown
Oct.–Dec.	barley and later wheat sown.

January and February are dead months. The shortness of the *grim* growing season will be noted.

The lakes have a peculiar economy of their own. "They bear innumerable boats, from which fish are caught in skilfully manipulated throw-nets. Weeds are dredged up to provide fodder for the cattle, and water chestnuts and lotus roots for human food. And, as if such fertility were inadequate, soils of marshy earth are bound together into rafts heavy with manure, and these are moored in rows across the swamp to form floating gardens, so that the boundary between earth, air, and water is made fruitful and bears the fiery red fruits of tomato plants." [10]

More important, if less picturesque, is the formation of new land on the shallow lake-margins by planting willows in the water and filling up the compartments so formed with boatloads of lake-mud and weeds. These *demb* lands are used not only for fruit and vegetables, but even for rape, maize, and tobacco.

The orchards of Kashmir provide the most valuable of its exports after timber; most temperate and sub-tropical fruits and nuts are grown. The most important fruit is probably the apricot, and the walnut is a source of lighting and cooking oil as well as a food. One of the main attractions of Kashmir to hard-drinking Moguls like Babur and Jahangir was its wine, but the vine has no longer its ancient fame, despite the establishment of a state vineyard with Bordeaux stocks—one development which is not likely to appeal to the future rulers of Kashmir, be they *Indian* or Pakistani. Even hops have been introduced, doubtless to be withdrawn again now. Finally we may note the cultivation on one or two *karewas* of the saffron crocus, in demand as a condiment and as a pigment for Indian sect-marks. Minor crops include opium poppy and the recently introduced pyrethrum.[11]

[10] G. E. Hutchinson, *The Clear Mirror* (1936), 102.

[11] Most of the details in this section are drawn from the full and fascinating account in the *Gazetteer* (41–63).

6:Spate N-4 (no date)1954 AWI India KASAMIA AV I

133 communication—impossible in winter—is easier (*le mot juste!*) over the shoulders of the mountains.

133 241 The Astor Valley marks the transition from the vivid colours of rock, field, and wood in the Vale to the desolate outer marches of Kashmir. Agriculture in this dry valley is carried up to 9000 ft by little irrigation channels, but low temperatures render it precarious: wheat, barley, pulses, maize, buckwheat, lucerne, and other fodder crops are grown.

Gilgit

631 Beyond the Indus lies Gilgit, and around it the Frontier Illaqas, more or less feudatory to Kashmir. Although we have it on the high authority of Holdich that where small parties of Buddhist pilgrims "made their way with infinite pain and difficulty to the great monasteries of the Peshawar plains, no military force of any consequence ever has, or ever could, follow their footsteps",[29] nervousness about Russian intentions led to the preservation of the long panhandle of Afghan territory, 15–25 miles wide, in Wakhan, the valley of the Ab-i-Panja branch of the Oxus, and at no point did the two great Empires actually touch.

Outside Gilgit itself the area is held by a congeries of petty tribal republics and chieftaincies of which Hunza is the most important; Schomberg gives them all (except Hunza and Yasin) a bad name for turbulence, murder, intrigue, avarice, dishonesty, laziness, stupidity, and general backwardness. The population is very slight, in Gilgit and the frontier some 120,000 in all on 18,000 sq mls; the density in Astor is 10, Gilgit proper 15, Frontier Illaqas 4. But in relation to cultivated area it is a different story—in 1901 the Gilgit density was 1295.

161

361 241 Settlement is usually on little terraces in the better valleys; one such is occupied by Gilgit itself, a nodal centre near the junction of the Gilgit and Hunza Rivers, which between them drain nearly the whole area between the Indus and the 20,000–22,000 ft peaks of the Hindu Kush. At Gilgit rice and cotton are grown as well as the usual montane crops and fruits; higher up Yasin has even a tiny export of wheat and barley. Hunza is even better: 30–40 sq mls of tiny terraced fields, orchards and poplars, and "curling along the bleak stony hillsides" carefully engineered *kuls* provided with little tunnels for the escape of scree from the slopes above. "All are of dry masonry, all have been built without scientific aid, with nothing more than industry, common sense, and the usual tools of a peasant; ibex horns were chiefly used." Fruit culture is of the utmost importance to life in these valleys, and above all the apricot, according to Schomberg the sole diet for weeks on end.[30]

[29] *Indica* (1904), 105; but cf. Sir Aurel Stein, "A Chinese Expedition across the Pamirs and Hindukush, A.D. 747", *GJ* LIX (1922), 112–31. Lord Ronaldshay (*Lands of the Thunderbolt* (1923), 141) aptly calls Gilgit and Chitral "listening-posts in the vast system of natural defences which keep silent and eternal watch over the teeming plains of Hindustan."

[30] Schomberg, *op. cit.*, 59–60, 112–13.

2/1 [i.e. of Indus Kohistan -- ANALYST]

6:Spate N-4 (no date)1954 AWI India Kashmir/AWI Baltistan

133 The Indus furrow is in general broken, rocky, barren, and dry. But every snow-fed tributary builds its fan, and where there is enough water the stream is split into radiating channels: "the living greens of apricots, willow trees, and little fields of barley make the surrounding desert appear uniformly parched and brown." E of Leh the Indus flows for 20 miles along a fault which brings it against the softer Eocene rocks; here there is a little alluvial plain and the fans "end abruptly against swampy fields, so that a man can stand with one foot in a desert and the other on damp green grass". This is perhaps the best-peopled part of the region, which has an average density of 4. The plain is dominated by Hemis Gompa, the most important Buddhist monastery of Little Tibet.

[161]

241 Beardless *grim* barley is the dominant crop, and can be grown to nearly 15,000 ft; at lower altitudes two crops a year may be possible, as the plant matures very quickly. Wheat, buckwheat, pulses, roots, and lucerne are grown in sandy carefully-manured soils; new soil is brought to the fields from hill-side pockets, or sprinkled on the snow to melt it when it lies late. Ploughing and transport are mostly by the *dzo*, the offspring of the cow and the yak bull. The grain is ground by water-mills of rough but ingenious construction.[28]

221 511 771 The people are in part nomadic—the Champa herders of sheep and yaks—but the Ladakhis proper are for the most part settled agriculturalists. Although they are often in debt to the monasteries, these are apparently very amenable creditors, and the peasantry is on the whole much more prosperous than the Muslim Baltis down-river; there seems little doubt that this is mainly due to the check on population provided by polyandry and monasticism. The whole atmosphere is Mahayana Buddhist, and the most prominent features of the cultural landscape, after the irrigated fans, are the monasteries, the innumerable *chortens* shrines, prayer wheels, fluttering streamers to affright the demons, and the long piles of *mani* stones on the approaches to villages: "heaps of rubble, shaped like sheds, with a width of twenty feet, a height of five or six, and a length of from fifty to a thousand . . . covered with hundreds of flat stones on each one of which the lamas had inscribed the universal prayer" *om mani padme hum*.[29] Hard as life is, swayed by the most fantastic demonolatry, the people have their full share of the usual Buddhist—or Mongol—cheerful good-fellowship, and are not without amenities: festivals in the winter and, in the short slack season as the barley grows, a living and intricate religious art of painting and dance.

491 433 In normal times the transit trade was an important source of income: through Skardu lies the trail to the Muztagh Pass and Kashgar; at Leh, a

[28] Details and illustration in Hutchinson, *op. cit.*, 91–94.

[29] E. Huntington, *The Pulse of Asia* (1907), 58–60; cf. G. Dainelli, *Buddhists and Glaciers of Western Tibet* (1933), 42–90, an admirably vivid description.

6:Spate N-4 (no date)1954 AWI India

Baltistan, the country between the Nu Shigar and the Nubra, is slightly more favoured than Ladakh, with c. 6 ins. precipitation and more glaciers; but it is still very harsh. The valleys at 8000–10,000 ft have a few patches of pine and deodar on the slopes, willow and poplar along the streams. Agriculture depends on the snow, which lies from mid-December to mid-March; in winter many villages are reached by the sun for barely an hour or two a day, but in summer the heat in the narrow rock-walled valleys—especially around Skardu—is intense. The usual crops, with ordinary and naked barley prominent, are grown, a spring and an autumn crop where water is sufficient. Lucerne, carefully tended, is important, but except for intensive manuring of the sandy soils farming is extremely primitive, and rotations unknown. The hot summer enables a wide variety of fruits—peaches, melons, grapes, above all apricots—and even a little tobacco to be grown. But the absence of the demographically restrictive social institutions of Ladakh keeps the Baltis miserably poor. Here and there washing for alluvial gold eked out incomes a little, or at least enables revenue demands to be met.

To the E conditions get progressively worse. Around Pangong there are a few fields of barley and peas on the fans at 14,000 ft or a little more; at Tankse "the few houses that constitute the village seem to hide behind a little grove of willow trees planted on one side of a stream, as if these trees were the greatest treasure of a place that wished to put up a brave front, a green and damp façade, to the hostile dry world before it". But on the plateaus NE of Pangong even pastoralism is difficult. The Chang-chenmo Valley has some vegetation: tamarisks on the floodplain, *burtse* on the slopes, and just below the snow-line some flowering plants and patches of grass, shared by tame yaks and wild asses. Here and there hot springs "water the gravelly plains into producing a little green grass . . . so precious that each patch has a name." [44]

Yet this most negative of regions has its place in human history. The old trade to Yarkand and Kashgar is dead or dying, but at the hands of man himself: politics in Sinkiang and Kashmir are responsible for its decay, not the desolate leagues of rock and ice nor the murderous winds of the Karakoram. The passes are open for only five or six months of the twelve; but over them, carried on yaks or even sheep, travelled jade, hemp, and silk from China; from India goods from the bazaars of Srinagar and Amritsar, sugar and salt; borax from the dead lakes of Rupshu. Goods of less bulk, but to many of highest value, also traversed this one of the strangest pilgrim routes of the world. Chinese disciples of the Enlightened One, seeking the shrines of Peshawar and Sarnath and Buddh Gaya or the libraries of Taxila, fought their bitter way over these savage gables of the world; and here too came Christian men, perhaps fleeing from the tide of Islam, per-

[44] Hutchinson, *op. cit.*, 106–07, 128–38. For the facts of the next paragraph, *ibid.*, 108–11.